IDEAL BOILERS

Ratings, Dimensions and Data *from* The Ideal Fitter

AMERICAN RADIATOR COMPANY

IDEAL BOILERS

RATINGS,
DIMENSIONS AND DATA
from
THE IDEAL FITTER

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by

AMERICAN RADIATOR COMPANY
DIVISION OF AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

40 West 40th Street, New York

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HEATING BOILER OUTPUTS

GLADLY responsive to a suggestion from a large number of heating contractors, we are resuming our former practice of showing several different Btu outputs (or ratings) produced by each and every HARD COAL burning Ideal Boiler resulting from burning the coal charge at different rates or time periods, to take the place of the practice of allotting to each HARD COAL burning boiler one single chosen output and specifying same as rating with its one single restricted time period during which the coal charge must be burned to produce the specified rating.

CERTIFICATION

All Ideal Boilers are CONSTRUCTED according to the low pressure heating boiler Code of the American Society of Mechanical Engineers.

GUARANTEED OUTPUT AND PERFORMANCE DATA

The output and performance data of each and every Ideal Heating Boiler has been evolved by tests made in conformance with the Manufacturers and Heating Contractors Output STANDARDS and is guaranteed in accordance therewith.

MANUFACTURERS AND HEATING CONTRACTORS OUTPUT STANDARDS

In order to be able to examine and to compare the qualities of performance of ALL makes and sizes of ALL solid fuel burning heating boilers — the manufacturers established — especially for test comparison purpose — a standard heat value of 12,500 Btu per pound for HARD coal and 13,000 Btu per pound for soft coal (see curve on chart on page 10, showing the percentage of decrease of the OUTPUTS of all Ideal Boilers when burning solid fuel having heat values less than 12,500 for hard coal).

Also a uniform pressure when testing boilers—of—for steam 2 pounds gauge pressure = 219° F. temperature—and for water 180° F. water temperature.

Manufacturers further decided to express all heating boiler OUTPUTS in Btu and also in square feet of direct cast iron radiators—selecting as a standard an arbitrary heat emission of 240 Btu for steam and 150 Btu for water radiators per square foot of surface per hour.

All Ideal Boiler HARD COAL burning outputs are based on the use of HARD COAL of commercial size best suited to the boiler, moisture free, 12,500 Btu heat value, steam at 2 pounds pressure and chimney dimensions as specified.

All Ideal Boiler SOFT COAL burning outputs are based on the use of SOFT COAL, free burning or caking 3″ x 2″ lump size, moisture free, 13,000 Btu heat value, steam at 2 pounds pressure and chimney dimensions as specified, with stoking and firing attention as required.

All Ideal Boiler OIL BURNING outputs are based on the use of commercial fuel oil 19,700 Btu heat value per pound.

Burning Hard Coal Fast and Slow

It is obvious that upon the number of hours spent in burning the HARD COAL charge depends the Btu output (or rating) of the heating boiler; or in other words, a boiler with drafts regulated to burn its hard coal charge in SIX hours will produce approximately two times the Btu output (or rating) that it will when regulated to burn its hard coal charge in TWELVE hours, and when burning its HARD COAL charge in EIGHTEEN hours will produce relatively one-third of the output (or rating) that it would when burning the same charge in SIX hours. Accordingly the practice of allotting to a coal burning heating boiler one specific chosen Btu output and specifying same as RATING appears to be a misnomer.

The outputs along the top of the HARD COAL BOILER PERFORMANCE DATA, printed in RED for steam and in BLACK for water boilers, show the boiler performance when burning the hard coal charge in different numbers of hours from slow to fast.

The STEAM and WATER outputs for Hard Coal Boilers along the top directly above the performance data, enclosed between the heavy vertical lines are—RECOMMENDED OUTPUTS BASED ON AN ATTACHED EQUIVALENT DIRECT STEAM RADIATOR AND PIPING (240 Btu) LOAD—AND ALSO ON AN ATTACHED EQUIVALENT DIRECT WATER RADIATOR AND PIPING (150 Btu) LOAD FOR THE BOILER SELECTION.

How to Select the Hard Coal Ideal Steam Boiler

EXAMPLE—Total estimated load of equivalent direct steam radiation plus piping equals 850 (240 Btu) square feet. To select a boiler to accord fully with the practice of the purchaser (heating contractor) for this load, turn to page 38. At top of page select the output nearest to the equivalent direct steam radiation and piping LOAD given in this example (850 square feet), then follow down the column containing the selected output to where the column is enclosed between heavy vertical lines; then follow to the left margin where, printed in RED is the recommended boiler, 2-S-8 REDFLASH, which is adequate to pick up quickly and supply the given load under all conditions.

How to Select the Hard Coal Ideal Water Boiler

EXAMPLE—Total estimated load of equivalent direct water radiation plus piping equals 1,360 (150 Btu) square feet. To select a boiler to fully accord with the practice of the purchaser for this load turn to page 34. At top of page select the output nearest to the equivalent direct water radiation and piping LOAD given in the example (1,360 square feet)—then follow down the column containing the selected output to where the column is enclosed between heavy vertical lines, then follow to the left margin where, printed in BLACK for water is the recommended boiler, 2-W-8 REDFLASH, which is adequate to quickly pick up and supply the given load under all conditions.

How to Select the Soft Coal Ideal Heating Boiler—Steam and Water

We also endeavored to submit similar tables showing a number of different Btu outputs produced by our line of SOFT COAL burning Ideal Boilers, but an extensive experience of many years convinces us that the making of such tables for SOFT COAL is impracticable owing to its many types, qualities, characteristics and structures, and the frequent attention and firing periods necessary for its best expression.

The SOFT COAL performance data of Ideal Smokeless Steam and Water Boilers shows recommended Ideal Boiler SELECTION outputs for total loads of equivalent direct steam radiators and piping (240 Btu) and equivalent direct water radiators and piping (150 Btu) BASED ON POUNDS OF SOFT COAL BURNED PER SQUARE FOOT OF GRATE PER HOUR AS FOLLOWS:

Years of experience has proved that FIVE pounds burned per square foot of grate per hour for small Ideal heating boilers, and EIGHT pounds burned per square foot of grate for large Ideal heating boilers, is a practical and dependable rate of burning for the SELECTION OF SOFT COAL Ideal Boilers.

How to Select the Oil Burning Ideal Heating Boiler—Steam and Water

A similar, dependable method of selecting Oil Burning Boilers has also been developed. The various outputs shown are based on heat transmission rates meaning Btu absorbed per square foot of boiler heating surface per hour when attached to a tight chimney of dimensions specified for oil burning Ideal Boilers.

The effect of burning OIL fuel at different rates in a heating boiler is similar to that when burning hard coal fast and slow as described on page 5. For the greater the combustion, the more oil is burned in a given time and the more heat is absorbed by the heating surface and is transmitted to the water in the boiler.

Each square foot of boiler heating surface must absorb and transmit to the water a specific amount of heat from the oil burned per hour in order to maintain a specific output per hour.

If the output per hour must be increased, then more pounds of oil must be burned per hour and each and every square foot of heating surface must absorb and transmit to the water more heat (Btu) per hour—in other words the HEAT TRANSMISSION RATE per square foot of heating surface then increases.

Recommendations as to the minimum burner capacity in pounds of oil per hour for the desired output are shown, based upon average operating capacities and efficiencies of burner and boiler based on oil having a calorific value of 19,700 Btu per pound.

This method of presenting oil burning Ideal Boiler outputs enables the heating contractor to select a boiler with a comprehensive regard for the efficiency desired.

Ideal Oil Burning Boiler Outputs
Guarantee & Selection

The outputs listed are guaranteed with the boiler operating at a steam pressure of 2 pounds—or a water (boiler) temperature of 180 deg. Fahr. and with the burner economically burning the quantity of fuel (19,700 Btu per pound) listed under Minimum Burner Capacities specified and with the boiler attached to a properly constructed tight chimney having dimensions SPECIFIED.

In every case, selection of the boiler with a moderate transmission rate will always result in economical operation. It is of course essential that the oil burner is capable—properly and economically—of burning the quantity of oil listed in the table within the combustion space available in the boiler.

IMPORTANT—Incident to warranting Ideal oil burning boiler outputs, the chimney SPECIFIED should serve the boiler ONLY and should be free from the hampering effects of adverse air currents.

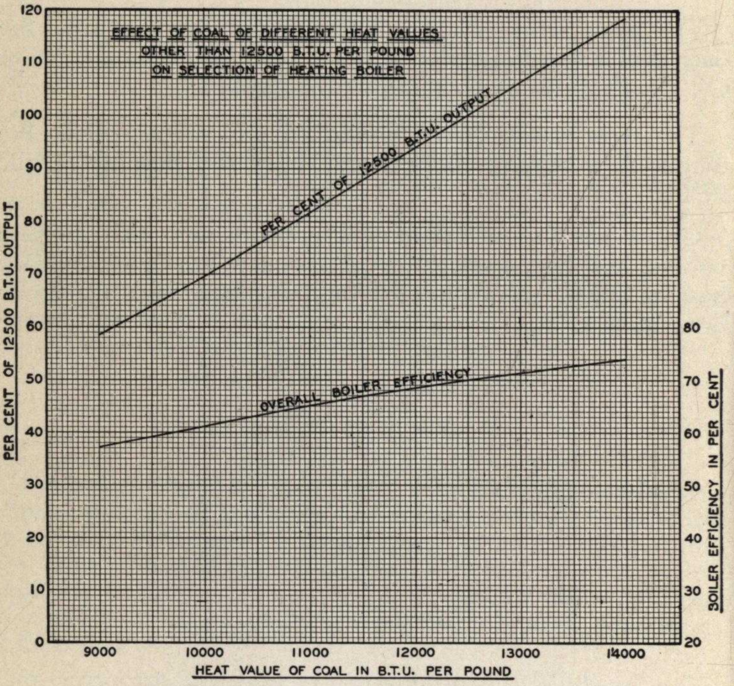
IDEAL BOILER OUTPUTS

All Ideal Boiler outputs herein are based on Square Feet Direct cast iron column steam radiators at 240 Btu and water radiators at 150 Btu emission per square foot of surface per hour.

The term rating when applied to any single specific Btu output of a heating boiler designed for and burning GAS or OIL is technically and commercially appropriate.

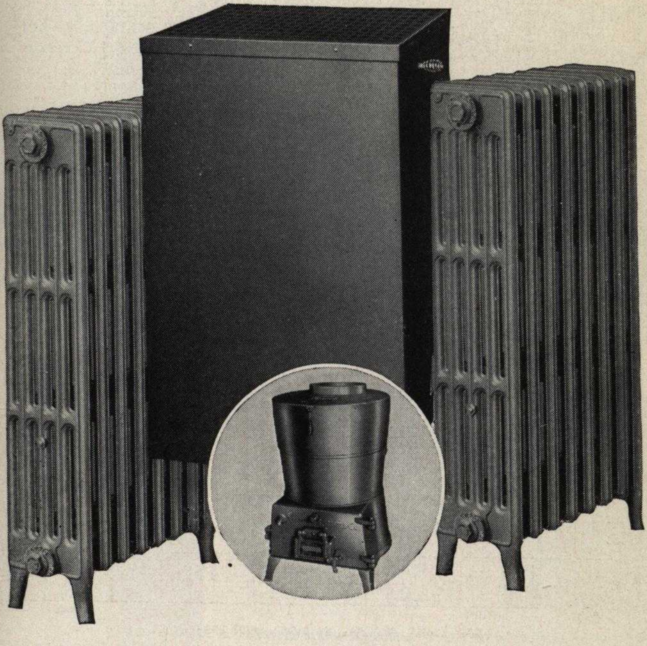
The term rating when applied to any single specific Btu output of a heating boiler designed for and burning SOLID FUELS is a misnomer.

Oil or gas fuel—flows—under pressure and with uniform volume and heat value into the adequate gas or oil burning heating boiler—developing continuous, dependable maximum Btu output.


EFFECT OF COAL OF DIFFERENT HEAT VALUES
OTHER THAN 12500 B.T.U. PER POUND
ON SELECTION OF HEATING BOILER
PER CENT OF 12500 B.T.U. OUTPUT
OVERALL BOILER EFFICIENCY
PER CENT OF 12500 B.T.U. OUTPUT
0
10
20
30
40
50
60
70
80
90
100
110
120
BOILER EFFICIENCY IN PER CENT
20
30
40
50
60
70
80
9000
10000
11000
12000
13000
14000
HEAT VALUE OF COAL IN B.T.U. PER POUND

ARCOHEET
HOT WATER HEATING OUTFIT

Lowest Priced Radiator Heating Outfit Ever Offered



THE ARCOHEET HOT WATER HEATING OUTFIT CONSISTS OF—

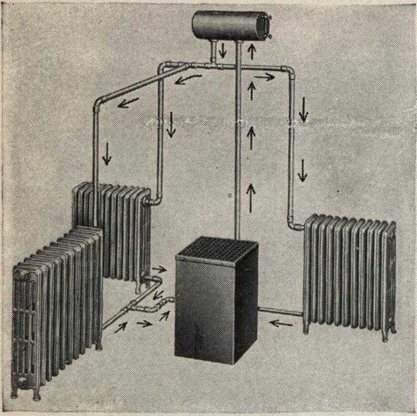
No. 75-F Arcoheet with base plate and legs, and with attractive maroon colored jacket.

Corto 38 in. 5-Tube Radiation up to 150 sq. ft.; made up into as many radiators as desired.

Expansion Tank with trimmings, drain cock and overflow fittings.

ARCOHEET
HOT WATER HEATING OUTFIT

Makes Radiator Heating Possible for Even the Smallest Home or Other Building



Typical Layout
Arcoheet System

Ideal for Small Homes
Independent Flats
Resort Cabins
Summer Cottages
Country Schools
Churches
Stores
Filling Stations
Commercial Garages
Private Garages
Restaurants
Lunch Wagons
Contractors' Shacks
Real Estate Offices
R. R. Stations
Switch Towers
Tourist Camps
Barber Shops
Bunk Houses
Poultry Houses

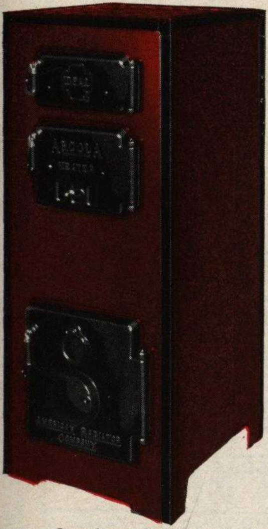
DATA AND DIMENSIONS

Height of Heater Inches	Width of Base Inches	Height of Base Inches	With Jacket			Style of Grate
			Height In.	Width In.	Depth In.	
18⅜	14¼	7	20	17	19	Rocking

Diameter of Grate Inches	Height to Center of Supply Inches	Height to Center of Return Inches	Tappings		Size of Smoke Pipe Inches
			Outlets In.	Inlets In.	
10	17⅜	14⅛	1-1¼	1-1¼	6

For the Best Arcoheet Installation
Use
ARCO COPPER PIPE AND FULL FLOW COPPER FITTINGS

IDEAL ARCOLA WATER BOILER
FOR ALL FUELS



Circulating Jacket

The Arcola is a boiler designed to provide hot water heating comfort for small dwellings, garages, stores, or other small buildings with or without cellars. It is economical, dependable and of good appearance.

Generally the Arcola is installed in the kitchen or living room, but it is equally well adapted for cellar installation. When equipped with a circulating jacket, illustrated at the left, it furnishes sufficient heat to warm the room in which it is placed.

Insulated Jacket

For Performance Data and Outputs, all fuels. See Pages 14–15

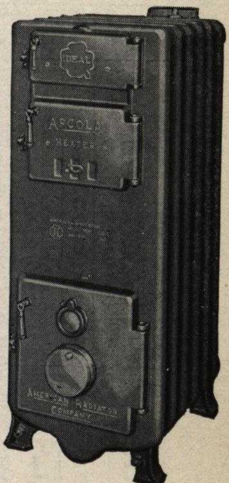
Data and Outputs, Oil. See Page 17

Data on Arcola Outfits. See Page 16

For Radiating Surface of Heater. See Page 17

Data and Dimensions. See Page 18

Data on Sundries and Trimmings. See Page 168



Unjacketed

IDEAL ARCOLA HEATER (For all Fuels)—Performance Data

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Water (150 B.t.u.)*	100	150	200	250	300	350	400	450	500	550	600	650	700	750
	Output in (1000's) B.t.u. per Hr.	**15.0**	**22.5**	**30.0**	**37.5**	**45.0**	**52.5**	**60.0**	**67.5**	**75.0**	**82.5**	**90.0**	**97.5**	**105.0**	**112.5**
†4-A Grate Area 0.67 Sq. Ft. Fuel Cap. 60 Lbs. Available Fuel 45 Lbs.	Time Available Fuel Will Last, Hrs.	22.9	15.6	11.8	9.4	7.7	...	...	...	...	...	...	...	...	...
	E. D. R. (150 B.t.u.)—Boiler External Surface*	45	45	45	45	45	...	...	...	...	...	...	...	...	...
	Efficiency of Boiler, %	61.0	62.4	62.9	62.5	61.7	...	...	...	...	...	...	...	...	...
	Stack Gas Temperature, °F	270	315	360	400	445	...	...	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.9	4.3	5.7	7.2	8.7	...	...	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	0.01	0.02	0.03	0.04	0.06	...	...	...	...	...	...	...	...	...
	Chimney Size, Ins.	8x8	8x8	8x8	8x8	8x8	...	...	...	...	...	...	...	...	...
	Chimney Height, Ft.	30	30	30	30	30	...	...	...	...	...	...	...	...	...
†5-A Grate Area 0.90 Sq. Ft. Fuel Cap. 80 Lbs. Available Fuel 60 Lbs.	Time Available Fuel Will Last, Hrs.	30.8	21.0	15.9	12.7	10.5	8.9	7.6	...	...	...	...	...	...	...
	E. D. R. (150 B.t.u.)—Boiler External Surface*	50	50	50	50	50	50	50	...	...	...	...	...	...	...
	Efficiency of Boiler, %	61.5	63.0	63.5	63.4	62.9	61.9	60.7	...	...	...	...	...	...	...
	Stack Gas Temperature, °F	260	300	345	380	425	470	510	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.2	3.2	4.2	5.3	6.4	7.5	8.8	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	0.01	0.02	0.03	0.03	0.05	0.06	0.08	...	...	...	...	...	...	...
	Chimney Size, Ins.	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...	...	...	...	...	...
	Chimney Height, Ft.	30	30	30	30	30	30	30	...	...	...	...	...	...	...
†6-A Grate Area 1.13 Sq. Ft. Fuel Cap. 100 Lbs. Available Fuel 75 Lbs.	Time Available Fuel Will Last, Hrs.	...	26.3	20.0	16.0	13.3	11.3	9.7	8.5	7.4	...	...	...	...	...
	E. D. R. (150 B.t.u.)—Boiler External Surface*	...	55	55	55	55	55	55	55	55	...	...	...	...	...
	Efficiency of Boiler, %	...	63.2	64.0	64.1	63.8	63.2	62.1	60.9	59.5	...	...	...	...	...
	Stack Gas Temperature, °F	...	295	335	375	415	455	495	535	575	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	2.5	3.3	4.1	5.0	5.9	6.8	7.8	8.9	...	...	...	...	...
	Draft Required, Ins. of Water	...	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.09	...	...	...	...	...
	Chimney Size, Ins	...	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...	...	...	...
	Chimney Height, Ft.	...	30	30	30	30	30	30	30	30	...	...	...	...	...

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*Boiler outputs do not include Equivalent Direct Radiation (150 B.t.u.) of boiler external surface shown for each boiler assemblage on page 17.

†"A" Series covers Unjacketed Arcola; same data applies to AJ series (with Circulating Jacket) and AI series (with Insulated Jacket).

IDEAL ARCOLA HEATER (For all Fuels)—Performance Data

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Water (150 B.t.u.)*	100	150	200	250	300	350	400	450	500	550	600	650	700	750
	Output in (1000's) B.t.u. per Hr.	**15.0**	**22.5**	**30.0**	**37.5**	**45.0**	**52.5**	**60.0**	**67.5**	**75.0**	**82.5**	**90.0**	**97.5**	**105.0**	**112.5**
†7-A Grate Area 1.36 Sq. Ft. Fuel Cap. 120 Lbs. Available Fuel 90 Lbs.	Time Available Fuel Will Last, Hrs.	...	31.8	24.2	19.4	16.2	13.8	11.9	10.4	9.2	8.2	7.3	...	...	...
	E. D. R. (150 B.t.u.)—Boiler External Surface*	...	60	60	60	60	60	60	60	60	60	60	...	...	...
	Efficiency of Boiler, %	...	63.7	64.5	64.8	64.7	64.2	63.5	62.6	61.5	60.2	58.4	...	...	...
	Stack Gas Temperature, °F	...	290	330	365	400	440	480	515	555	590	630	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	2.1	2.7	3.4	4.1	4.8	5.6	6.3	7.2	8.1	9.1	...	...	...
	Draft Required, Ins. of Water	...	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	...	...	...
	Chimney Size, Ins.	...	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...	...
	Chimney Height, Ft.	...	30	30	30	30	30	30	30	30	30	30	...	...	...
†8-A Grate Area 1.59 Sq. Ft. Fuel Cap. 140 Lbs. Available Fuel 105 Lbs.	Time Available Fuel Will Last, Hrs.	...	...	28.4	22.9	19.1	16.3	14.1	12.4	11.0	9.8	8.8	7.9	...	...
	E. D. R. (150 B.t.u.)—Boiler External Surface*	...	...	65	65	65	65	65	65	65	65	65	65	...	...
	Efficiency of Boiler, %	...	...	65.0	65.4	65.4	65.1	64.5	63.7	62.7	61.6	60.4	59.0	...	...
	Stack Gas Temperature, °F	...	...	320	355	390	425	460	500	535	570	605	640	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	2.3	2.9	3.5	4.1	4.7	5.3	6.0	6.7	7.5	8.3	...	...
	Draft Required, Ins. of Water	...	...	0.01	0.02	0.02	0.03	0.04	0.04	0.05	0.07	0.08	0.10	...	...
	Chimney Size, Ins.	...	...	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...
	Chimney Height, Ft.	...	...	30	30	30	30	30	30	30	30	30	30	...	...
†9-A Grate Area 1.82 Sq. Ft. Fuel Cap 160 Lbs. Available Fuel 120 Lbs.	Time Available Fuel Will Last, Hrs.	...	...	...	26.4	22.0	18.8	16.3	14.4	12.7	11.4	10.2	9.3	8.4	7.7
	E. D. R. (150 B.t.u.)—Boiler External Surface*	...	...	...	70	70	70	70	70	70	70	70	70	70	70
	Efficiency of Boiler, %	...	...	...	66.0	66.0	65.8	65.3	64.6	63.7	62.6	61.4	60.2	58.9	57.4
	Stack Gas Temperature, °F	...	...	...	345	380	415	450	485	515	550	585	620	655	690
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	...	2.5	3.0	3.5	4.0	4.6	5.2	5.8	6.4	7.1	7.8	8.6
	Draft Required, Ins. of Water	...	...	...	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.11
	Chimney Size, Ins.	...	...	...	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8
	Chimney Height, Ft.	...	...	...	30	30	30	30	30	30	30	30	30	30	30

*Boiler outputs do not include Equivalent Direct Radiation (150 B.t.u.) of boiler external surface shown for each boiler assemblage on page 17.
†"A" Series covers Unjacketed Arcola; same data applies to AJ series (with Circulating Jacket) and AI series (with Insulated Jacket).

ARCOLA HOT WATER OUTFITS

FOR ALL FUELS

INCLUDING

Arcola as indicated with Ashpan, Firing Tools and Radiation as scheduled of 38-inch high Corto 5-Tube made up in any number of Radiators desired. Adjuncts consisting of Expansion Tank and Gauge, Draincock and Overflow Fitting are also included.

NOTE: AUTOMATIC REGULATION NOT INCLUDED. CAN BE FURNISHED AT ADDITIONAL NET CHARGE.

With Circulating Jacket		With Insulated Jacket		Unjacketed	
Outfit Number	Amount of Radiation Sq. Ft.	Outfit Number	Amount of Radiation Sq. Ft.	Outfit Number	Amount of Radiation Sq. Ft.
4-AJ-75	75	4-AI-75	75	4-A-75	75
4-AJ-100	100	4-AI-100	100	4-A-100	100
4-AJ-125	125	4-AI-125	125	4-A-125	125
4-AJ-150	150	4-AI-150	150	4-A-150	150
5-AJ-150	150	5-AI-150	150	5-A-150	150
5-AJ-175	175	5-AI-175	175	5-A-175	175
5-AJ-200	200	5-AI-200	200	5-A-200	200
6-AJ-200	200	6-AI-200	200	6-A-200	200
6-AJ-225	225	6-AI-225	225	6-A-225	225
6-AJ-250	250	6-AI-250	250	6-A-250	250
7-AJ-250	250	7-AI-250	250	7-A-250	250
7-AJ-275	275	7-AI-275	275	7-A-275	275
7-AJ-300	300	7-AI-300	300	7-A-300	300
8-AJ-300	300	8-AI-300	300	8-A-300	300
8-AJ-325	325	8-AI-325	325	8-A-325	325
8-AJ-350	350	8-AI-350	350	8-A-350	350
9-AJ-350	350	9-AI-350	350	9-A-350	350
9-AJ-375	375	9-AI-375	375	9-A-375	375
9-AJ-400	400	9-AI-400	400	9-A-400	400

The Circulating Jacket has bottom inlets and grilled top outlet and so permits the Arcola to serve as a radiator to heat the room in which it is placed. The Insulated Jacket acts as does any boiler covering to guard against heat loss of the Arcola when used as a boiler only.

For Radiator Surface of Heater, see next page.

FOR THE TYPICAL ARCOLA INSTALLATION USE ARCO FULL-FLOW WROUGHT COPPER PIPE AND FITTINGS FOR:

1. Quicker circulation—because of lessened frictional resistance of both Pipe and Fittings.
2. The perfect connection—Copper to Copper—with less likelihood of leakage plus permanency.
3. Beauty in the installation itself—less objectionable where piping is exposed because piping is small—joints are neater and the metal is attractive.
4. With little if any added cost.
5. The simplicity of making the pipe-runs true and clean appeals to the discriminating Trade and Owner.

ARCOLA HEATER

RATINGS—FOR ALL FUELS

(For performance data see pages 14 and 15)

	Heater Number	*Maximum Output Full Drive	**Recommended Load, Sq. Ft. E. D. R.	Radiating Surface of Heater Sq. Ft.
CIRCULATING JACKET	4-AJ	300	150	45
	5-AJ	400	200	50
	6-AJ	500	250	55
	7-AJ	600	300	60
	8-AJ	650	350	65
	9-AJ	750	400	70
INSULATED JACKET	4-AI	300	150	—
	5-AI	400	200	—
	6-AI	500	250	—
	7-AI	600	300	—
	8-AI	650	350	—
	9-AI	750	400	—
UNJACKETED	4-A	300	150	45
	5-A	400	200	50
	6-A	500	250	55
	7-A	600	300	60
	8-A	650	350	65
	9-A	750	400	70

*MAXIMUM OUTPUT is output at Boiler nozzle expressed in Equivalent Direct Radiation at 150 B. t. u.

**RECOMMENDED LOAD represents attached load, including piping, which may be placed on Boiler in accordance with accepted installation standards for economical operation.

NOTE: ARCOLA HEATERS can be furnished on Special Order for Hot Water Supply specially tested at 200 lbs.

RATINGS—FOR OIL BURNING

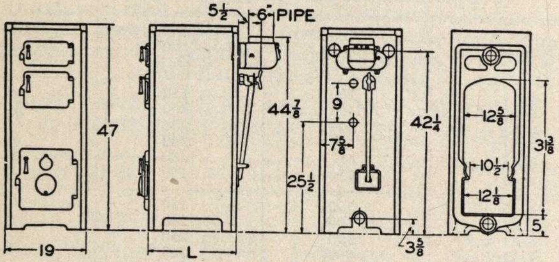
	Heater Number	Actual Installed Radiation	Radiating Surface of Heater Sq. Ft.
CIRCULATING JACKET	5-AJ-OIL	150	50
	6-AJ-OIL	200	55
	7-AJ-OIL	250	60
	8-AJ-OIL	300	65
	9-AJ-OIL	350	70
INSULATED JACKET	5-AI-OIL	180	—
	6-AI-OIL	230	—
	7-AI-OIL	280	—
	8-AI-OIL	330	—
	9-AI-OIL	380	—
UNJACKETED	5-A-OIL	150	50
	6-A-OIL	200	55
	7-A-OIL	250	60
	8-A-OIL	300	65
	9-A-OIL	350	70

ARCOLA HEATERS for Oil Burning are shipped less Grates and Grate Connections, Ashpan and Firing Tools.

ARCOLA HEATER

Dimensions—Outlets—Inlets

ARCOLA (Jacketed)



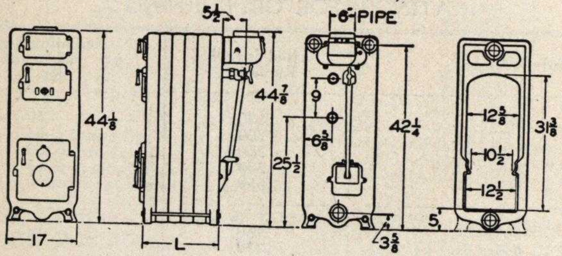
Note: Automatic Regulator shown in illustration supplied only at extra charge.

Circulating or Insulated Jacket

Number of Boiler	Number of Sections	Length "L" Inches	Tappings		Size of Smoke-pipe Inches	Radiating Surface of Heater with Circulating Jacket Sq. Ft.
			Inlets Inches	Outlets Inches		
†4-AJ	4	15	1-2½	2-2	6	45
†5-AJ	5	18	1-2½	2-2	6	50
†6-AJ	6	21	1-2½	2-2	6	55
†7-AJ	7	24	1-2½	2-2	6	60
†8-AJ	8	27	1-2½	2-2	6	65
†9-AJ	9	30	1-2½	2-2	6	70

†Same data applies to AI Series—with Insulated Jacket, also to Oil Burning Arcolas.

ARCOLA (Unjacketed)



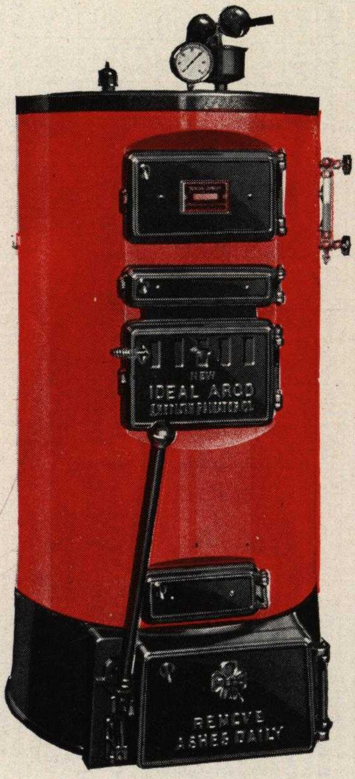
Note: Automatic Regulator shown in illustration supplied only at extra charge.

Number of Boiler	Number of Sections	Length "L" Inches	Tappings		Size of Smoke-pipe Inches	Radiating Surface of Heater Sq. Ft.
			Inlets Inches	Outlets Inches		
4-A	4	12	1-2½	2-2	6	45
5-A	5	15	1-2½	2-2	6	50
6-A	6	18	1-2½	2-2	6	55
7-A	7	21	1-2½	2-2	6	60
8-A	8	24	1-2½	2-2	6	65
9-A	9	27	1-2½	2-2	6	70

Same data also applies to Oil Burning Arcolas.

NEW IDEAL ARCO BOILER

Burns all Fuels



Patent Pending

Steam and Water Boilers—Tapped for External Water Heater—See Note Page 118

or Explanation on Boiler Selection	See Pages	4–7
or Guarantee	See Page	4
or Performance Data and Outputs	See Pages	20–22
or Data on Dimensions, and Assemblage of Sections	See Page	23
or Data on Sundries and Trimmings	See Page	168

NEW IDEAL ARCO BOILER

PERFORMANCE DATA—STEAM AND WATER

Size of Boiler		OUTPUT IN EQUIVALENT DIRECT RADIATION (Sq. Ft.)															
	Steam (240 B. t. u.)	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
	Water (150 B. t. u.)	240	320	400	480	560	640	720	800	880	960	1040	1120	1200	1280	1360	1440
	Output in (1000's) B. t. u. per hr.	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
S-181	Time avail. fuel will last—hours*	28.0	21.0	17.0	14.0	12.0	10.0	9.0	8.0								
W-181	Overall efficiency of boiler—%	72.8	72.3	72.0	71.5	70.8	69.5	68.5	67.0								
Grate area 1.77 sq. ft.	Stackgas Temperature—Degrees F.	360	415	470	530	585	640	700	760								
Fuel Capacity 148 lb.	Fuel burned per sq. ft. grate per hr. lbs	2.2	3.0	3.8	4.6	5.4	6.3	7.1	8.1								
Available Fuel 112 lbs.	Draft required inches of water	.015	.025	.035	.045	.06	.075	.095	.14								
	Chimney Size—inches	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8								
	Chimney Height—feet	30	30	30	30	30	30	30	30								
S-201	Time avail. fuel will last—hours*		25.5	20.5	17.0	14.5	12.5	11.0	9.5	8.5	8.0						
W-201	Overall efficiency of boiler—%		72.7	72.3	72.0	71.5	70.8	69.8	68.8	67.1	66.0						
Grate area 2.18 sq. ft.	Stackgas Temperature—Degrees F.		390	440	500	550	610	660	720	770	825						
Fuel Capacity 180 lbs.	Fuel burned per sq. ft. grate per hr. lbs.		2.4	2.7	3.6	4.3	5.0	5.7	6.4	7.2	8.0						
Available Fuel 135 lbs.	Draft required inches of water		.02	.025	.035	.045	.06	.075	.09	.12	.15						
	Chimney Size—inches		8x8	8x8	8x8	8x8	8x8	8x8	8x 8	8x8	8x8						
	Chimney Height—feet		30	30	30	30	30	30	30	30	30						
S-221	Time avail. fuel will last—hours*			24.5	20.5	17.0	15.0	13.0	12.0	10.5	9.5	8.5	8.0				
W-221	Overall efficiency of boiler—%			72.5	72.2	71.7	71.2	70.5	69.7	68.5	67.5	66.0	65.0				
Grate area 2.65 sq. ft.	Stackgas Temperature—Degrees F.			420	470	525	580	630	685	740	790	845	900				
Fuel Capacity 216 lbs.	Fuel burned per sq. ft. grate per hr. lbs.			2.5	3.0	3.6	4.1	4.7	5.2	5.6	6.4	7.1	7.8				
Available Fuel 162 lbs.	Draft required inches of water			.02	.03	.04	.05	.06	.07	.085	.105	.13	.16				
	Chimney Size—inches			8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8				
	Chimney Height—feet			35	35	35	35	35	35	35	35	35	35				

*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy vertical lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

NEW IDEAL ARCO BOILER

PERFORMANCE DATA—STEAM AND WATER

Size of Boiler		OUTPUT IN EQUIVALENT DIRECT RADIATION (Sq. Ft.)															
	Steam (240 B. t. u.)....	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1025
	Water (150 B. t. u.).....	400	480	560	640	720	800	880	960	1040	1120	1200	1280	1360	1440	1520	1640
	Outputin(1000's)B.t.u.hr.	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	246
S-222	Time avail. fuel lasts, hr.*	32	26	23	20	17.5	15.5	14	13	12	11	10	9.3				
W-222	Overall efficiency boiler %	72	72.5	72.5	72	72	71.5	71	70.5	70	69	68.5	67.2				
Grate area 2.62 sq. ft.	Stackgas Temp.—Deg. F.	360	410	460	510	570	620	670	730	780	830	890	940				
Fuel Cap. 282 lbs.	Fuel burned per sq. ft. grate per hr. lbs........	2.5	3.0	3.5	4.1	4.7	5.3	5.8	6.3	6.8	7.4	8.0	8.7				
Avail. Fuel 212 lbs.	Draft required ins. water..	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.12	0.14	0.16				
	Chimney Size—ins.......	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12				
	Chimney Height—ft......	35	35	35	35	35	35	35	35	35	35	35	35				
S-223	Time avail. fuel lasts, hr.*		26.8	23	20	18	16.2	14.7	13.5	12.3	11.3	10.5	9.7	9.1	8.6		
W-223	Overall efficiency boiler–%		73	73.2	73.5	73.5	73.5	73.2	73	72.5	72	71.5	71	70.5	70		
Grate area, 2.62 sq. ft.	Stackgas Temp.—Deg. F.		380	410	450	485	520	560	600	635	670	710	750	785	820		
Fuel Cap.282 lbs.	Fuel burned per sq. ft. grate per hr. lbs.......		3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.6	7.2	7.7	8.3	8.9	9.5		
Avail. Fuel 212 lbs.	Draft required ins. water..		0.015	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.12	0.14	0.16		
	Chimney size—ins........		8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12		
	Chimney Height—ft......		35	35	35	35	35	35	35	35	35	35	35	35	35		
S-252	Time avail. fuel last, hr.*		31	27	23.5	21	19	17	15.5	14	13	12	11	10.5	10	9.2	
W-252	Overall efficiency boiler–%		71	71	71	70.8	70.5	70.3	70.0	69.5	69.0	68.5	68.0	67.5	67	66	
Grate area, 3.53 sq. ft.	Stackgas Temp.—Deg. F.		435	475	520	560	600	645	685	730	770	810	850	895	935	980	
Fuel Cap. 338 lbs.	Fuel burned per sq. ft. grate per hr. lbs.......		2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.1	5.5	6.0	6.4	6.8	7.2	7.8	
Avail. Fuel 254 lbs.	Draft required ins., water.		0.01	0.015	0.02	0.025	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.13	
	Chimney Size—inches....		8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	
	Chimney Height—ft......		35	35	35	35	35	35	35	35	35	35	35	35	35	35	

*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy vertical lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

NEW IDEAL ARCO BOILER

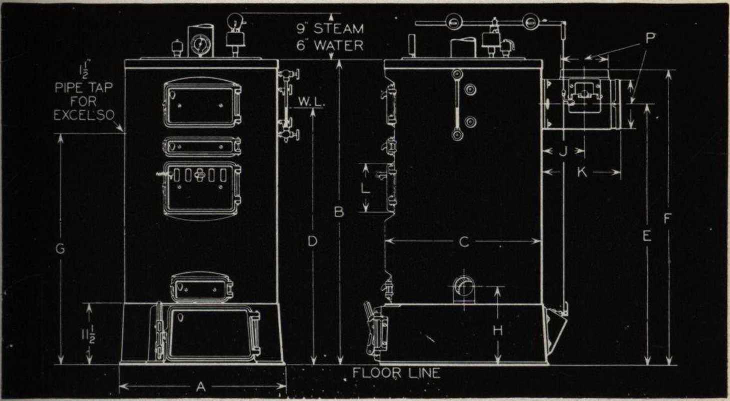
PERFORMANCE DATA—STEAM AND WATER

Size of Boiler		OUTPUT IN EQUIVALENT DIRECT RADIATION (Sq. Ft.)																
	Steam (240 B. t. u.)........	400	450	500	550	600	650	700	750	800	850	900	950	1025	1100	1200	1300	1400
	Water (150 B. t. u.)........	640	720	800	880	960	1040	1120	1200	1280	1360	1440	1520	1640	1760	1920	2080	2240
	Output in (1000's) B. t. u. per hour..............	96	108	120	132	144	156	168	180	192	204	216	228	246	264	288	312	336
S-253 W-253 Grate area 3.53 sq. ft. Fuel Cap. 338 lbs. Avail. Fuel 254 lbs.	Time avail. fuel last, hrs.*	24	21.5	19.5	17.5	16	14.5	13.5	12.5	11.5	11	10.5	9.5	9	8.3			
	Over. efficiency boiler, %...	72.8	73	73	73.2	73	72.8	72.5	72.2	72	71.5	71	70.5	69.7	68.7			
	Stackgas Temp., Deg. F....	440	475	510	545	580	615	650	685	720	755	790	825	880	930			
	Fuel burned per sq. ft. grate per hour, lbs............	3.0	3.3	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5	6.9	7.3	8.0	8.7			
	Draft req. ins. of water.....	0.015	0.02	0.025	0.03	0.035	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.14			
	Chimney Size—ins	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12			
	Chimney Height—ft.	40	40	40	40	40	40	40	40	40	40	40	40	40	40			
S-282 W-282 Grate area 4.36 sq. ft. Fuel Cap. 496 lbs. Avail. Fuel 372 lbs.	Time avail. fuel last, hrs.*..		30.8	27.8	25.4	23.3	21.4	20	18.4	17.2	16.1	15.1	14.1	13.0	12.0	10.8		
	Over. efficiency boiler, %..		71.5	71.7	71.8	71.8	71.7	71.5	71.2	71	70.5	70	69.5	68.7	67.8	66.5		
	Stackgas Temp., Deg. F.....		495	530	565	600	635	670	705	740	775	810	845	900	950	1000		
	Fuel burned per sq. ft. grate per hour, lbs.		2.8	3.1	3.4	3.7	4.0	4.3	4.6	5.0	5.3	5.7	6.1	6.6	7.1	7.9		
	Draft req. ins. of water.....		0.01	0.015	0.02	0.025	0.03	0.04	0.045	0.05	0.06	0.07	0.08	0.09	0.11	0.13		
	Chimney Size—ins.........		8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12		
	Chimney Height—ft.......		35	35	35	35	35	35	35	35	35	35	35	35	35	35		
S-283 W-283 Grate area 4.36 sq. ft. Fuel Cap. 496 lbs. Avail. Fuel 372 lbs.	Time avail. fuel last, hrs.*..				25.8	23.6	21.7	20.3	18.8	17.7	16.6	15.7	14.7	13.6	12.6	11.4	10.4	9.5
	Over. efficiency boiler, %...				73.2	73.5	73.5	73.5	73.5	73.3	73.1	73	72.5	72.0	71.5	70.7	69.8	69
	Stackgas Temp., Deg. F ...				440	470	500	540	570	600	640	670	700	750	800	865	930	1000
	Fuel burned per sq. ft. grate per hour, lbs.				3.3	3.6	3.9	4.2	4.5	4.8	5.1	5.5	5.8	6.3	6.7	7.5	8.2	9.0
	Draft req. ins. of water. ...				0.015	0.02	0.025	0.03	0.04	0.045	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.14
	Chimney Size—ins				12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12
	Chimney Height—ft.......				40	40	40	40	40	40	40	40	40	40	40	40	40	40

*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy vertical lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

Measurements and Dimensions

NEW IDEAL ARCO BOILER



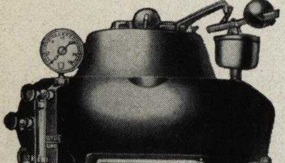
Dimension	181	201	221	222	223	252	253	282	283
A	26½	28½	31¼	32¼	32¼	35	35	39	39
B	47½	47½	49	55¼	60	56½	61½	58⅜	63½
C	24¼	26¼	29	29¾	29¾	32½	32½	36½	36½
D(W L)	38⅝	38⅝	38⅝	47	51¾	48½	53½	50⅜	55½
E	39½	39½	40	44¼	49¼	45¼	50¼	47	52
F	45	45	46½	51	55¾	51¾	56¾	55	60
G	36	36	35½	39¼	44	40¼	45¼	41	46¼
H	14	14	14½	14½	14½	15¼	15¼	15¼	15¼
J	6¼	6¼	7½	8	8	8	8	9	9
K	11¾	11¾	14½	14¾	14¾	14¾	14¾	17¼	17¼
L*	8½x11½	8½x11½	8½x11½	8½x13	8½x13	8½x13	8½x13	8½x13	8½x13
P**	7	7	9	9	9	9	9	12	12
Inlets	2-3	2-3	2-3	2-3	2-3	2-4	2-4	2-4	2-4
Outlets	1-3	1-3	1-4	1-4	1-4	1-5	1-5	1-5	1-5

*Fire Door Opening. **Smoke Pipe.

IDEAL ARCO ROUND BOILER

The Standard Round Boiler of America for a Generation

Burns All Fuels



Steam

Water

(Patented)

Steam Boilers Only—Tapped for External Water Heater—See Note Page 118

For Explanation on Boiler Selection............. ...See Pages 4–7
For Guarantee..................................See Page 4
For Performance Data and Outputs.................See Pages 25–30
For Data on Dimensions, and Assemblage of Sections..See Pages 31–32
For Data on Sundries and Trimmings...............See Page 168

17-INCH IDEAL ARCO ROUND BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)											
	Steam (240 B.t.u.)	100	150	200	250	300	350	400	450	500	550	600
	Water (150 B.t.u.)	160	240	320	400	480	560	640	720	800	880	960
	Output in (1000's) B.t.u. per Hr.	24	36	48	60	72	84	96	108	120	132	144
S-1704	Time Available Fuel Will Last, Hrs.*	34.8	24.1	18.1	14.3	11.6	9.6	8.0	.....	.....	.....	.....
W-1704	Overall Efficiency of Boiler, %	62.5	64.8	65	64	62.5	60.5	58.3	.....	.....	.....	.....
Grate Area	Stack Gas Temperature, °F	310	358	400	450	495	540	590	.....	.....	.....	.....
1.4 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr.,											
Fuel Cap.	Lbs.	2.2	3.2	4.2	5.3	6.6	8.0	9.4	.....	.....	.....	.....
142 Lbs.	Draft Required, Ins. of Water	.02	.025	.035	.045	.055	.075	0.10	.....	.....	.....	.....
Available Fuel	Chimney Size, Ins	8x8	8x8	8x8	8x8	8x8	8x8	8x8	.....	.....	.....	.....
107 Lbs.	Chimney Height, Ft.	30	30	30	30	30	30	30	.....	.....	.....	.....
S-1705	Time Available Fuel Will Last, Hrs.*	.....	25.2	18.9	15.1	12.4	10.3	8.9	7.6	.....	.....	.....
W-1705	Overall Efficiency of Boiler, %	.....	68	68	67.5	66.5	65	63.5	61.3	.....	.....	.....
Grate Area	Stack Gas Temperature, °F	.....	320	360	400	440	480	520	560	.....	.....	.....
1.4 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr.,											
Fuel Cap.	Lbs.	.....	3.0	4.0	5.1	6.2	7.4	8.6	10.1	.....	.....	.....
142 Lbs.	Draft Required, Ins. of Water	.....	.025	.035	.047	.06	.07	.085	0.10	.....	.....	.....
Available Fuel	Chimney Size, Ins	.....	8x8	8x8	8x8	8x8	8x8	8x8	8x8	.....	.....	.....
107 Lbs.	Chimney Height, Ft.	.....	30	30	30	30	30	30	30	.....	.....	.....
S-1706	Time Available Fuel Will Last, Hrs.*	.....	26.4	19.6	15.6	12.9	10.9	9.4	8.2	.....	.....	.....
W-1706	Overall Efficiency of Boiler, %	.....	71	70.5	70	69.3	68.5	67.2	66	.....	.....	.....
Grate Area	Stack Gas Temperature, °F	.....	300	330	360	390	420	450	480	.....	.....	.....
1.4 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr.,											
Fuel Cap.	Lbs.	.....	2.9	3.9	4.9	5.9	7.0	8.1	9.3	.....	.....	.....
142 Lbs.	Draft Required, Ins. of Water	.....	.03	.033	.04	.045	.05	.06	.075	.....	.....	.....
Available Fuel	Chimney Size, Ins	.....	8x8	8x8	8x8	8x8	8x8	8x8	8x8	.....	.....	.....
107 Lbs.	Chimney Height, Ft.	.....	35	35	35	35	35	35	35	.....	.....	.....

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

19-INCH IDEAL ARCO ROUND BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)											
	Steam (240 B.t.u.)	**100**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**
	Water (150 B.t.u.)	**160**	**240**	**320**	**400**	**480**	**560**	**640**	**720**	**800**	**880**	**960**
	Output in (1000's) B.t.u. per Hr.	**24**	**36**	**48**	**60**	**72**	**84**	**96**	**108**	**120**	**132**	**144**
S-1904	Time Available Fuel Will Last, Hrs.*	.....	26.2	20	16	13.1	11.1	9.6	8.3	7.3	.....	.....
W-1904	Overall Efficiency of Boiler, %	.....	58	58.8	58.8	58	57.5	56.6	55.5	54	.....	.....
Grate Area	Stack Gas Temperature, °F.	.....	370	430	450	550	610	670	730	790	.....	.....
1.88 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	.....	2.6	3.4	4.3	5.3	6.2	7.2	8.3	9.5	.....	.....
173 Lbs.	Draft Required, Ins. of Water	.....	.025	.032	.04	.05	.065	.08	.10	.12	.....	.....
Available Fuel	Chimney Size, Ins.	.....	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	.....	.....
130 Lbs.	Chimney Height, Ft.	.....	30	30	30	30	30	30	30	30	.....	.....
S-1905	Time Available Fuel Will Last, Hrs.*	.....	.....	22	17.6	14.7	12.5	10.8	9.5	8.4	7.5	.....
W-1905	Overall Efficiency of Boiler, %	.....	.....	65	65.1	65	64.8	64	63	62	60.8	.....
Grate Area	Stack Gas Temperature, °F.	.....	.....	370	420	460	500	540	585	630	670	.....
1.88 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	.....	.....	3.1	3.9	4.7	5.5	6.4	7.3	8.2	9.2	.....
173 Lbs.	Draft Required, Ins. of Water	.....	.....	.02	.025	.03	.04	.05	.06	.07	.085	.....
Available Fuel	Chimney Size, Ins.	.....	.....	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	.....
130 Lbs.	Chimney Height, Ft.	.....	.....	35	35	35	35	35	35	35	35	.....
S-1906	Time Available Fuel Will Last, Hrs.*	.....	.....	22.4	18.2	15.3	13.0	11.5	10.1	9.1	8.2	7.5
W-1906	Overall Efficiency of Boiler, %	.....	.....	66	67	67.5	67.5	67.5	67.5	67.2	67	66.5
Grate Area	Stack Gas Temperature, °F.	.....	.....	280	320	360	400	440	490	530	570	610
1.88 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	.....	.....	3.1	3.8	4.5	5.3	6.0	6.8	7.6	8.4	9.2
173 Lbs.	Draft Required, Ins. of Water	.....	.....	.025	.045	.065	.09	.11	.14	.16	.189	.22
Available Fuel	Chimney Size, Ins.	.....	.....	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8
130 Lbs.	Chimney Height, Ft.	.....	.....	35	35	35	35	35	35	35	35	35

20-INCH IDEAL ARCO ROUND BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)															
	Steam (240 B.t.u.)	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900
	Water (150 B.t.u.)	320	400	480	560	640	720	800	880	960	1040	1120	1200	1280	1360	1440
	Output in (1000's) B.t.u. per Hr.	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216
S-2004	Time Available Fuel Will Last, Hrs.*	25.8	20.5	16.9	14.3	12.3	10.8	9.5	8.4	7.6	6.9	...	...	...	...	...
W-2004	Overall Efficiency of Boiler, %	63.5	63.0	62.5	61.5	60.5	59.5	58.5	57.2	56.0	54.8	...	...	...	...	...
Grate Area	Stack Gas Temperature, °F	420	480	540	590	650	700	760	820	880	940	...	...	...	...	...
2.23 Sq. Ft Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.7	3.4	4.1	4.9	5.7	6.5	7.4	8.3	9.2	10.1	...	...	...	...	...
208 Lbs.	Draft Required, Ins. of Water	.03	.04	.045	.05	.06	.07	.08	.095	.11	.13	...	...	...	...	...
Available Fuel	Chimney Size, Ins.	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...	...	...	...
156 Lbs.	Chimney Height, Ft.	30	30	30	30	30	30	30	30	30	30	...	...	...	...	...
S-2005	Time Available Fuel Will Last, Hrs.*	27.6	22.1	18.3	15.5	13.5	11.9	10.5	9.5	8.5	7.8	7.1	...	...	...	...
W-2005	Overall Efficiency of Boiler, %	68.0	67.8	67.5	67.0	66.5	65.8	65.0	64.1	63.2	62.2	61.0	...	...	...	...
Grate Area	Stack Gas Temperature, °F	310	350	390	420	460	500	540	580	620	660	700	...	...	...	...
2.23 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.5	3.2	3.8	4.5	5.2	5.9	6.7	7.4	8.2	9.0	9.9	...	...	...	...
208 Lbs.	Draft Required, Ins. of Water	.025	.03	.04	.045	.05	.06	.07	.08	.09	.10	.12	...	...	...	...
Available Fuel	Chimney Size, Ins.	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...	...	...
156 Lbs.	Chimney Height, Ft.	35	35	35	35	35	35	35	35	35	35	35	...	...	...	...
S-2006	Time Available Fuel Will Last, Hrs.*	27.8	22.3	18.5	15.8	13.7	12.1	10.8	9.8	8.8	8.1	7.4	6.8	...	...	...
W-2006	Overall Efficiency of Boiler, %	68.5	68.5	68.2	68.0	67.5	67.0	66.5	66.0	65.0	64.5	63.5	62.5	...	...	...
Grate Area	Stack Gas Temperature, °F	280	320	350	380	420	450	480	520	550	580	620	650	...	...	...
2.23 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.5	3.1	3.8	4.4	5.1	5.8	6.5	7.1	8.0	8.6	9.5	10.4	...	...	..
208 Lbs.	Draft Required, Ins. of Water	.01	.02	.028	.035	.04	.05	.06	.07	.08	.09	.10	.11	...	...	...
Available Fuel	Chimney Size, Ins.	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...
156 Lbs.	Chimney Height, Ft.	35	35	35	35	35	35	35	35	35	35	35	35	...	..	...

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

22-INCH IDEAL ARCO ROUND BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)															
	Steam (240 B.t.u.)	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**550**	**600**	**650**	**700**	**750**	**800**	**850**	**900**
	Water (150 B.t.u.)	**320**	**400**	**480**	**560**	**640**	**720**	**800**	**880**	**960**	**1040**	**1120**	**1200**	**1280**	**1360**	**1440**
	Output in (1000's) B.t.u. per Hr.	**48**	**60**	**72**	**84**	**96**	**108**	**120**	**132**	**144**	**156**	**168**	**180**	**192**	**204**	**216**
S-2204	Time Available Fuel Will Last, Hrs.*	...	27.8	23.2	19.6	17.0	15.0	13.3	11.9	10.6	9.6	8.7	8.0	7.3	...	...
W-2204	Overall Efficiency of Boiler, %	...	63.0	62.9	62.2	61.5	61.0	60.0	59.0	57.5	56.5	55.2	54.0	52.8	...	...
Grate Area	Stack Gas Temperature, °F.	...	430	480	520	570	620	660	700	750	800	840	890	940	...	...
2.62 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate															
Fuel Cap.	per Hr., Lbs.	...	2.9	3.5	4.1	4.8	5.4	6.1	6.8	7.6	8.4	9.3	10.1	11.1	...	...
282 Lbs.	Draft Required, Ins. of Water	...	.02	.025	.03	.035	.04	.05	.06	.07	.08	.09	.11	.125	...	...
Available Fuel	Chimney Size, Ins.	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...
212 Lbs.	Chimney Height, Ft.	...	35	35	35	35	35	35	35	35	35	35	35	35	...	...
S-2205	Time Available Fuel Will Last, Hrs.*	...	28.5	24	20.6	18	16	14.3	12.9	11.6	10.6	9.7	8.9	8.2	7.5	...
W-2205	Overall Efficiency of Boiler, %	...	64.5	65	65.3	65.2	65	64.5	64	63.2	62.5	61.5	60.5	59.2	58	...
Grate Area	Stack Gas Temperature, °F.	...	390	420	450	480	510	540	570	600	630	660	690	720	750	...
2.62 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate															
Fuel Cap.	per Hr., Lbs.	...	2.8	3.4	3.9	4.5	5.1	5.7	6.3	7.0	7.6	8.4	9.1	9.9	10.8	...
282 Lbs.	Draft Required, Ins. of Water	...	.02	.025	.03	.035	.04	.05	.055	.062	.07	.08	.09	.10	.11	...
Available Fuel	Chimney Size, Ins.	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...
212 Lbs.	Chimney Height, Ft.	...	35	35	35	35	35	35	35	35	35	35	35	35	35	...
S-2206	Time Available Fuel Will Last, Hrs.*	...	...	24.7	21.2	18.6	16.6	14.8	13.5	12.3	11.2	10.3	9.5	8.8	8.1	7.5
W-2206	Overall Efficiency of Boiler, %	...	...	67	67.2	67.5	67.5	67.2	67	66.5	66	65.2	64.5	63.5	62.2	61
Grate Area	Stack Gas Temperature, °F.	...	...	360	380	410	430	460	490	510	540	560	590	620	640	670
2.62 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate															
Fuel Cap.	per Hr., Lbs.	...	...	3.3	3.8	4.3	4.9	5.5	6.0	6.6	7.2	7.9	8.5	9.2	10	10.8
282 Lbs.	Draft Required, Ins. of Water	...	...	.025	.03	.035	.04	.047	.053	.06	.066	.075	.085	.095	.106	.12
Available Fuel	Chimney Size, Ins.	...	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12
212 Lbs.	Chimney Height, Ft.	...	...	40	40	40	40	40	40	40	40	40	40	40	40	40

25-INCH IDEAL ARCO ROUND BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																			
	Steam (240 B.t.u.)...........	**300**	**350**	**400**	**450**	**500**	**550**	**600**	**650**	**700**	**750**	**800**	**850**	**900**	**950**	**1025**	**1100**	**1200**	**1300**	**1400**
	Water (150 B.t.u.)...........	**480**	**560**	**640**	**720**	**800**	**880**	**960**	**1040**	**1120**	**1200**	**1280**	**1360**	**1440**	**1520**	**1640**	**1760**	**1920**	**2080**	**2240**
	Output in (1000's) B.t.u. per Hr.	**72**	**84**	**96**	**108**	**120**	**132**	**144**	**156**	**168**	**180**	**192**	**204**	**216**	**228**	**246**	**264**	**288**	**312**	**336**
S-2504 **W-2504** Grate Area 3.53 Sq. Ft. Fuel Cap. 338 Lbs. Available Fuel 254 Lbs.	Time Available Fuel Will Last, Hrs.*................	26.9	22.9	19.8	17.6	15.6	14.1	12.8	11.6	10.6	9.8	9.1	8.4	7.8	7.2	...	...	...	...	...
	Overall Efficiency of Boiler, %	61	60.6	60	59.9	59	58.5	57.8	57	56	55.5	55	54	53	52	...	...	...	...	...
	Stack Gas Temperature, °F..	470	510	560	600	640	680	730	770	820	860	900	950	990	1030	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs........	2.7	3.1	3.6	4.1	4.6	5.1	5.7	6.2	6.8	7.3	7.9	8.6	9.2	10	...	...	...	...	...
	Draft Required, Ins. of Water	.03	.038	.04	.05	.055	.06	.07	.075	.085	.09	.10	.11	.117	.128	...	...	...	...	...
	Chimney Size, Ins..........	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...
	Chimney Height, Ft........	35	35	35	35	35	35	35	35	35	35	35	35	35	35	...	...	...	...	...
S-2505 **W-2505** Grate Area 3.53 Sq. Ft. Fuel Cap. 338 Lbs. Available Fuel 254 Lbs.	Time Available Fuel Will Last, Hrs.*................	29.6	25.3	22.1	19.5	17.5	15.9	14.4	13.2	12.2	11.3	10.4	9.7	9.1	8.5	7.7	...	...	...	...
	Overall Efficiency of Boiler, %	67	67	66.8	66.5	66.1	66	65.2	65	64.5	64	63.1	62.5	62	61	60	...	...	...	...
	Stack Gas Temperature, °F..	370	400	420	450	480	510	530	560	590	620	650	680	710	740	780	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs........	2.4	2.8	3.3	3.7	4.1	4.6	5.0	5.4	5.9	6.4	6.9	7.4	7.9	8.5	9.3	...	...	...	...
	Draft Required, Ins. of Water	.024	.029	.03	.038	.04	.05	.055	.06	.065	.072	.08	.086	.095	.105	.12	...	...	...	...
	Chimney Size, Ins..........	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...
	Chimney Height, Ft........	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	...	...	...	...
S-2506 **W-2506** Grate Area 3.53 Sq. Ft. Fuel Cap. 338 Lbs. Available Fuel 254 Lbs.	Time Available Fuel Will Last, Hrs.*................	30.4	26.1	22.8	20.3	18.2	16.5	15	13.8	12.7	11.8	10.9	10.2	9.5	9	8.2	7.5	...	...	...
	Overall Efficiency of Boiler, %	69	69	69	69	68.8	68.5	68	67.8	67.2	66.8	66	65.5	65	64.5	63.5	62.5	...	...	...
	Stack Gas Temperature, °F..	340	360	380	400	430	450	470	500	520	540	560	590	610	630	670	700	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs........	2.4	2.8	3.2	3.5	4.0	4.4	4.8	5.2	5.7	6.1	6.6	7.1	7.6	8.0	8.8	9.6	...	...	...
	Draft Required, Ins. of Water	.02	.025	.03	.035	.04	.045	.05	.055	.06	.065	.07	.08	.085	.09	.103	.115	...	...	...
	Chimney Size, Ins..........	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...
	Chimney Height, Ft........	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	...	...	...

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

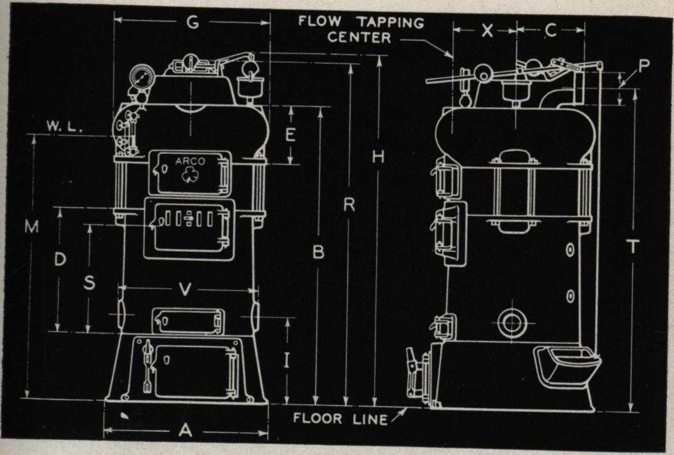
28-INCH IDEAL ARCO ROUND BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Steam (240 B.t.u.)	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1025	1100	1200	1300	1400
	Water (150 B.t.u.)	480	560	640	720	800	880	960	1040	1120	1200	1280	1360	1440	1520	1640	1760	1920	2080	2240
	Output in (1000's) B.t.u. per Hr.	72	84	96	108	120	132	144	156	168	180	192	204	216	228	246	264	288	312	336
S-2804 **W-2804**	Time Available Fuel Will Last, Hrs.*	..	36.5	31.7	27.9	24.8	22.3	20.3	18.5	16.9	15.5	14.4	13.3	12.4	11.5	10.4	9.4	8.2	...	...
Grate Area 4.36 Sq. Ft.	Overall Efficiency of Boiler, %	..	66	65.5	64.8	64	63.5	62.8	62	61.1	60.2	59.5	58.5	57.5	56.5	55	53.5	51	...	...
	Stack Gas Temperature, °F.	..	460	490	520	560	590	620	650	680	720	750	780	820	850	890	940	1010	...	...
Fuel Cap. 496 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	..	2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.1	5.5	5.9	6.4	6.9	7.4	8.2	9.1	10.4	...	...
	Draft Required, Ins. of Water	..	.018	.02	.025	.028	.03	.035	.04	.045	.05	.055	.06	.07	.075	.085	.10	.12	...	...
Available Fuel 372 Lbs.	Chimney Size, Ins.	..	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...
	Chimney Height, Ft.	..	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	...	...
S-2805 **W-2805**	Time Available Fuel Will Last, Hrs.*	..	..	32	28.3	25.4	23.1	21.1	19.3	17.8	16.5	15.4	14.4	13.4	12.6	11.5	10.5	9.5	8.5	...
Grate Area 4.36 Sq. Ft.	Overall Efficiency of Boiler, %	..	..	66.2	65.9	65.6	65.5	65.2	64.8	64.4	63.9	63.6	63	62.4	61.7	60.6	59.9	58.9	57	...
	Stack Gas Temperature, °F.	..	..	430	450	480	500	520	540	570	590	620	640	660	690	720	760	800	850	...
Fuel Cap. 496 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	..	..	2.7	3.0	3.4	3.7	4.1	4.4	4.8	5.2	5.5	5.9	6.4	6.8	7.4	8.1	9.0	10	...
	Draft Required, Ins. of Water	..	..	.015	.018	.02	.025	.03	.035	.04	.045	.05	.055	.06	.068	.078	.09	.11	.13	...
Available Fuel 372 Lbs.	Chimney Size, Ins.	..	..	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...
	Chimney Height, Ft.	..	..	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	...
S-2806 **W-2806**	Time Available Fuel Will Last, Hrs.*	..	..	32.2	28.5	25.6	23.3	21.3	19.6	18.1	16.8	15.7	14.7	13.8	12.9	11.8	10.9	9.9	8.9	8.2
Grate Area 4.36 Sq. Ft.	Overall Efficiency of Boiler, %	..	..	66.5	66.3	66.2	66.2	66	65.8	65.5	65.2	65	64.5	64	63.5	62.5	62.1	61.5	60	59
	Stack Gas Temperature, °F.	..	..	310	330	350	370	390	410	430	450	470	490	500	520	550	580	620	670	710
Fuel Cap. 496 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	..	..	2.7	3.0	3.3	3.7	4.0	4.4	4.7	5.1	5.4	5.8	6.2	6.6	7.2	7.8	8.6	9.6	10.4
	Draft Required, Ins. of Water	..	..	.025	.028	.03	.032	.035	.038	.04	.043	.045	.05	.055	.06	.065	.075	.09	.11	.13
Available Fuel 372 Lbs.	Chimney Size, Ins.	..	..	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12
	Chimney Height, Ft.	..	..	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

Ideal Arco Round Boiler—Steam

Dimensions—Outlets—Inlets

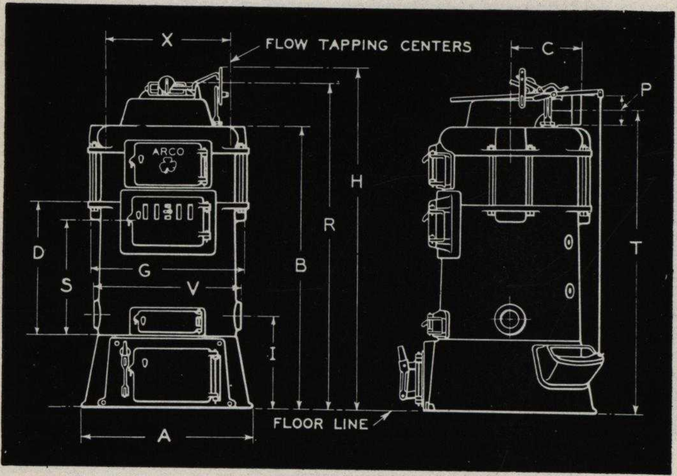


Number of Boiler	Size of Outlets and Inlets*	Dimensions in Inches														
		A	B	C	D	E	G	H	I	M	P	R	S	T	V	X
S-1704	2½″	24¾	53¼	11¼	24¾	11	24¼	64	16½	47	8	60¼	21½	57	21¾	9⅛
S-1705	2½″	24¾	57¾	11¼	24¾	11	24¼	68½	16½	51½	8	64¾	21½	61½	21¾	9⅛
S-1706	2½″	24¾	62¼	11¼	24¾	11	24¼	73	16½	56	8	69¼	21½	66	21¾	9⅛
S-1904	2½″	27¼	52½	11¼	23½	11½	26¾	63½	16¼	45	8	59½	20½	56	24¼	9⅝
S-1905	2½″	27¼	57	11¼	23½	11½	26¾	68	16¼	50	8	64	20½	60½	24¼	9⅝
S-1906	2½″	27¼	61¾	11¼	23½	11½	26¾	72¾	16¼	55	8	68¾	20½	65¼	24¼	9⅝
S-2004	3″	29	51½	11¼	23½	11¼	28½	62½	16⅛	46	8	58¼	20½	54⅞	25½	9⅞
S-2005	3″	29	56¼	11¼	23½	11¼	28½	67¼	16⅛	51	8	63	20½	59½	25½	9⅞
S-2006	3″	29	60¾	11¼	23½	11¼	28½	71¾	16⅛	55	8	67½	20½	64⅛	25½	9⅞
S-2204	3″	30	54	13¼	24½	11½	30½	65¾	16⅞	47	9	62¼	21¼	58⅛	27¾	10¾
S-2205	3″	30	58½	13¼	24½	11½	30½	70¼	16⅞	52	9	66¾	21¼	62½	27¾	10¾
S-2206	3″	30	63¼	13¼	24½	11½	30½	75	16⅞	56	9	71½	21¼	67⅜	27¾	10¾
S-2504	3½″	33¼	55¾	13¼	25¼	12½	33¼	68	17	48	9	63½	22	59½	30½	11¾
S-2505	3½″	33¼	60½	13¼	25¼	12½	33¼	72¾	17	53	9	68¼	22	64¼	30½	11¾
S-2506	3½″	33¼	65½	13¼	25¼	12½	33¼	77¾	17	58	9	73¼	22	69¼	30½	11¾
S-2804	4″	36¾	57¾	14½	26¼	13¼	37	69¾	17⅛	49	10	66½	23¼	62¼	34¼	13
S-2805	4″	36¾	62¾	14½	26¼	13¼	37	74¾	17⅛	54	10	71½	23¼	67¼	34¼	13
S-2806	4″	36¾	68	14½	26¼	13¼	37	80	17⅛	59	10	76¾	23¼	72⅜	34¼	13

* Steam boilers have one outlet and two inlets.

Ideal Arco Round Boiler—Water

Dimensions—Outlets—Inlets

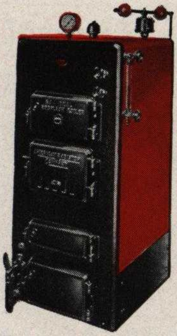


Number of Boiler	Size of Outlets and Inlets*	Dimensions in Inches												
		A	B	C	D	G	H	I	P	R	S	T	V	X
W-1704	2½″	24¾	47¼	11¼	24¾	24	58	16½	8	54½	21½	51¼	21¾	18¼
W-1705	2½″	24¾	51¾	11¼	24¾	24	62½	16½	8	59	21½	55¾	21¾	18¼
W-1706	2½″	24¾	56¼	11¼	24¾	24	67	16½	8	63½	21½	60¼	21¾	18¼
W-1904	2½″	27¼	46	11¼	23½	25	57	16¼	8	52½	20½	49¼	24¼	19¼
W-1905	2½″	27¼	50½	11¼	23½	25	61½	16¼	8	57	20½	53¾	24¼	19¼
W-1906	2½″	27¼	55	11¼	23½	25	66	16¼	8	61½	20½	58¼	24¼	19¼
W-2004	3″	29	45½	11¼	23½	27	56½	16⅛	8	52	20½	48½	25½	21
W-2005	3″	29	50¼	11¼	23½	27	61½	16⅛	8	56¾	20½	53¼	25½	21
W-2006	3″	29	54¾	11¼	23½	27	65¾	16⅛	8	61¼	20½	57¾	25½	21
W-2204	3″	30	47¾	13¼	24½	29½	59	16⅞	9	55½	21¼	51½	27¾	23
W-2205	3″	30	52	13¼	24½	29½	63¼	16⅞	9	59¾	21¼	55¾	27¾	23
W-2206	3″	30	57	13¼	24½	29½	68¼	16⅞	9	64¾	21¼	60¾	27¾	23
W-2504	3½″	33¼	48¾	13¼	25¼	33	60	17	9	56½	22	52⅝	30½	25½
W-2505	3½″	33¼	53½	13¼	25¼	33	64¾	17	9	61¼	22	57⅜	30½	25½
W-2506	3½″	33¼	58¾	13¼	25¼	33	70	17	9	66½	22	62⅝	30½	25½
W-2804	4″	36¾	50¾	14½	26¼	37	63	17⅛	10	59½	23¼	55	34¼	29½
W-2805	4″	36¾	55¾	14½	26¼	37	68	17⅛	10	64½	23¼	60	34¼	29½
W-2806	4″	36¾	61	14½	26¼	37	73¼	17⅛	10	69¾	23¼	65¼	34¼	29½

* Water boilers have two outlets and two inlets.

IDEAL REDFLASH BOILER

ANTHRACITE



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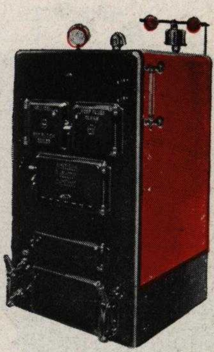

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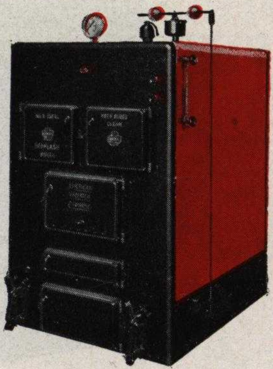


No. 3 Size

Tapped for External Water Heater (excepting No. 1 Water Boilers)—See Note Page 118

For Explanation on Boiler Selection	See Pages	4–6
For Guarantee	See Page	4
For Performance Data and Outputs	See Pages	35–42
For Data on Dimensions and Assemblage of Sections	See Pages	49–51
For Ashpit Dimensions	See Page	54
For Arrangement of Grate Bars	See Page	55
For Data on Sundries and Trimmings	See Page	168

IDEAL REDFLASH BOILER

ANTHRACITE

No. 4 Size

No. 5 Size

Tapped for External Water Heater—See Note Page 118

For Explanation on Boiler Selection	See Pages	4–6
For Guarantee	See Page	4
For Performance Data and Outputs	See Pages	43–48
For Data on Dimensions, and Assemblage of Sections	See Pages	52–53
Ashpit Dimensions	See Page	54
Arrangement of Grate Bars	See Page	55
For Data on Sundries and Trimmings	See Page	168

NO. 1 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)															
	Steam (240 B. t. u.)	200	275	350	425	500	575	650	725	800	875	950	1025	1100	1175	1250
	Water (150 B. t. u.)	320	440	560	680	800	920	1040	1160	1280	1400	1520	1640	1760	1880	2000
	Output in (1000's) B. t. u. per Hr.	48	66	84	102	120	138	156	174	192	210	228	246	264	282	300
1-S-5 **1-W-5** Grate Area 1.79 Sq. Ft. Fuel Cap. 160 Lbs. Available Fuel 120 Lbs.	Time Available Fuel Will Last, Hrs.*	20.6	15.0	11.7	9.6	8.1	...	...	...	...	...	...	...	...	...	...
	Overall Efficiency of Boiler, %	66.1	65.8	65.5	65.3	64.6	...	...	...	...	...	...	...	...	...	...
	Stack Gas Temperature, ° F	460	520	580	640	700	...	...	...	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	3.3	4.5	5.7	7.0	8.3	...	...	...	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	.032	.040	.054	.073	.097	...	...	...	...	...	...	...	...	...	...
	Chimney, Size, Ins.	8x8	8x8	8x8	8x8	8x8	...	...	...	...	...	...	...	...	...	...
	Chimney Height, Ft.	30	30	30	30	30	...	...	...	...	...	...	...	...	...	...
1-S-6 **1-W-6** Grate Area 2.25 Sq. Ft. Fuel Cap. 200 Lbs. Available Fuel 150 Lbs.	Time Available Fuel Will Last, Hrs.*	26.4	19.2	15.0	12.3	10.4	9.0	7.9	...	...	...	...	...	...	...	...
	Overall Efficiency of Boiler, %	67.5	67.4	67.1	66.8	66.5	65.8	65.3	...	...	...	...	...	...	...	...
	Stack Gas Temperature, ° F	440	495	545	600	655	705	760	...	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.5	3.5	4.4	5.4	6.4	7.4	8.5	...	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	.025	.028	.037	.053	.070	.090	.115	...	...	...	...	...	...	...	...
	Chimney Size, Ins.	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...	...	...	...	...	...	...
	Chimney Height, Ft.	30	30	30	30	30	30	30	...	...	...	...	...	...	...	...
1-S-7 **1-W-7** Grate Area 2.71 Sq. Ft. Fuel Cap. 240 Lbs. Available Fuel 180 Lbs.	Time Available Fuel Will Last, Hrs.*	...	23.6	18.5	15.1	12.8	11.0	9.7	8.6	7.7	...	...	...	...	...	...
	Overall Efficiency of Boiler, %	...	69.3	68.9	68.6	68.4	67.7	67.2	66.5	65.5	...	...	...	...	...	...
	Stack Gas Temperature, ° F	...	475	520	570	620	665	710	760	805	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	2.8	3.6	4.4	5.2	6.0	6.9	7.7	8.6	...	...	...	...	...	...
	Draft Required, Ins. of Water	...	.025	.028	.038	.05	.067	.087	.108	.132	...	...	...	...	...	...
	Chimney Size, Ins.	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...	...
	Chimney Height, Ft.	...	35	35	35	35	35	35	35	35	...	...	...	...	...	...

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation) then select boiler from figures enclosed by heavy lines. **For further explanation on boiler selection, see page 6. For guarantee, see page 4.**

NO. 1 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Steam (240 B. t. u.)	200	275	350	425	500	575	650	725	800	875	950	1025	1100	1175	1250	1325	1400
	Water (150 B. t. u.)	320	440	560	680	800	920	1040	1160	1280	1400	1520	1640	1760	1880	2000	2120	2240
	Output in (1000's) B. t. u. per Hr.	48	66	84	102	120	138	156	174	192	210	228	246	264	282	300	318	336
1-S-8 **1-W-8** Grate Area 3.17 Sq. Ft. Fuel Cap 280 Lbs. Available Fuel 210 Lbs.	Time Available Fuel Will Last, Hrs.*	....	....	22.1	18.1	15.3	13.2	11.6	10.3	9.2	8.3	7.6	....	....	....	....	....	....
	Overall Efficiency of Boiler, %	....	....	70.5	70.3	69.8	69.5	68.9	68.4	67.6	66.7	65.5	....	....	....	....	....	....
	Stack Gas Temperature, ° F.	....	....	500	540	580	625	670	710	755	795	840	....	....	....	....	....	....
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	....	3.0	3.7	4.3	5.0	5.7	6.4	7.2	8.0	8.7	....	....	....	....	....	....
	Draft Required, Ins. of Water	....	....	.025	030	.040	053	067	.085	.104	.125	147	....	....	....	....	....	....
	Chimney Size, Ins.	....	....	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	....	....	....	....	....	....
	Chimney Height, Ft.	....	....	35	35	35	35	35	35	35	35	35	....	..	....	....	....	....
1-S-9 **1-W-9** Grate Area 3.63 Sq. Ft. Fuel Cap. 320 Lbs. Available Fuel 240 Lbs.	Time Available Fuel Will Last, Hrs.*	....	....	25.7	21.1	17.9	15.5	13.6	12.2	10.9	9.9	9.0	8.2	7.4	....	....	....	....
	Overall Efficiency of Boiler, %	....	....	71.9	71.7	71.5	71.3	70.8	70.5	69.7	69.2	68.3	66.9	65.5	....	....	....	....
	Stack Gas Temperature, ° F.	....	....	485	520	560	600	640	670	710	750	790	825	860	....	....	....	....
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	....	2.6	3.1	3.7	4.3	4.9	5.4	6.1	6.7	7.3	8.1	8.9	....	....	....	....
	Draft Required, Ins. of Water	....	....	.022	.025	032	040	.051	.065	.078	.095	110	.129	.147	....	....	....	....
	Chimney Size, Ins.	....	....	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	....	....	....	....
	Chimney Height, Ft.	....	....	35	35	35	35	35	35	35	35	35	35	35	....	....	....	....
1-S-10 **1-W-10** Grate Area 4.09 Sq. Ft. Fuel Cap. 360 Lbs. Available Fuel 270 Lbs.	Time Available Fuel Will Last, Hrs.*	....	....	....	24.0	20.3	17.6	15.6	13.9	12.6	11.5	10.5	9.6	8.8	8.1	7.3	....	....
	Overall Efficiency of Boiler, %	....	....	....	72.3	72.2	72.1	72.0	71.9	71.7	71.3	70.8	70.0	69.0	67.5	65.0	....	....
	Stack Gas Temperature, ° F.	....	....	....	500	535	570	605	640	675	710	745	780	815	850	885	....	....
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	....	....	2.7	3.2	3.7	4.2	4.7	5.2	5.7	6.3	6.9	7.5	8.2	9.0	....	....
	Draft Required, Ins. of Water	....	....	....	0.02	0.025	0.03	0.035	0.045	0.055	0.065	0.08	0.092	0.105	0.12	0.145	....	....
	Chimney Size, Ins.	....	....	....	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	....	....
	Chimney Height, Ft.	....	....	....	35	35	35	35	35	35	35	35	35	35	35	35	....	....
1-S-11 **1-W-11** Grate Area 4.55 Sq. Ft. Fuel Cap. 400 Lbs. Available Fuel 300 Lbs.	Time Available Fuel Will Last, Hrs.*	....	....	....	26.9	22.8	19.8	17.5	15.7	14.2	13.0	11.9	11.0	10.2	9.4	8.7	8.0	7.5
	Overall Efficiency of Boiler, %	....	....	....	73.2	73.1	73.0	72.9	72.8	72.7	72.6	72.5	72.2	71.8	71.0	69.9	67.9	67.0
	Stack Gas Temperature, ° F.	....	....	....	490	520	550	580	610	640	670	700	730	760	790	820	850	820
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	....	....	2.4	2.9	3.3	3.8	4.2	4.6	5.1	5.5	6.0	6.5	7.0	7.6	8.3	8.8
	Draft Required, Ins. of Water	....	....	....	0.017	0.018	0.020	0.022	0.028	0.035	0.045	0.053	0.065	0.079	0.090	0.105	0.12	0.135
	Chimney Size, Ins.	....	....	....	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12
	Chimney Height, Ft.	....	....	....	35	35	35	35	35	35	35	35	35	35	35	35	35	35

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

NO. 2 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Steam (240 B.t.u.) Water (150 B.t.u.)	300 480	425 680	550 880	675 1080	800 1280	925 1480	1050 1680	1175 1880	1300 2080	1425 2280	1550 2480	1675 2680	1800 2880	1925 3080	2050 3280
	Output in (1000's) B.t.u. per Hr.	72	102	132	162	192	222	252	282	312	342	372	402	432	462	492
2-S-5	Time Available Fuel Will Last, Hrs.*	29.2	20.5	15.8	12.8	10.7	9.2	8.0	...	...	...	...	...	...	...	...
2-W-5	Overall Efficiency of Boiler, %	70.0	69.7	69.5	69.0	68.5	68.0	67.0	...	...	...	...	...	...	...	...
Grate Area	Stack Gas Temperature, °F.	420	490	560	640	720	790	860	...	...	...	...	...	...	...	...
3.50 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate Per Hr., Lbs.	2.3	3.3	4.3	5.4	6.4	7.5	8.6	...	...	...	...	...	...	...	...
320 Lbs.	Draft Required, Ins. of Water	0.010	0.020	.030	.041	.060	.075	.095	...	...	...	...	...	...	...	...
Available Fuel	Chimney Size, Ins.	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...	...	...	...
240 Lbs.	Chimney Height, Ft.	35	35	35	35	35	35	35	...	...	...	...	...	...	...	...
2-S-6	Time Available Fuel Will Last, Hrs.*	...	26.0	20.0	16.2	13.6	11.7	10.2	9.0	8.0	...	...	...	...	...	...
2-W-6	Overall Efficiency of Boiler, %	...	70.7	70.5	70.2	69.7	69.5	68.5	67.7	66.5	...	...	...	...	...	...
Grate Area	Stack Gas Temperature, °F.	...	450	510	570	630	690	750	800	860	...	...	...	...	...	...
4.39 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate Per Hr., Lbs.	...	2.6	3.4	4.2	5.0	5.8	6.7	7.6	8.5	...	...	...	...	...	...
400 Lbs.	Draft Required, Ins. of Water	...	.010	.025	.035	.050	.060	.075	.090	.110	...	...	...	...	...	...
Available Fuel	Chimney Size, Ins.	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...	...	...	...	...	...
300 Lbs.	Chimney Height, Ft.	...	35	35	35	35	35	35	35	35	...	...	...	...	...	...
2-S-7	Time Available Fuel Will Last, Hrs.*	...	...	24.4	19.7	16.6	14.3	12.4	11.1	9.9	8.9	8.0	...	...	...	...
2-W-7	Overall Efficiency of Boiler, %	...	...	71.5	71.0	70.7	70.5	69.7	69.3	68.5	67.5	66.5	...	...	...	...
Grate Area	Stack Gas Temperature, °F.	...	...	480	530	580	630	680	740	780	840	890	...	...	...	...
5.28 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate Per Hr., Lbs.	...	...	2.8	3.5	4.1	4.8	5.5	6.1	6.9	7.7	8.5	...	...	...	...
480 Lbs.	Draft Required, Ins. of Water	...	...	.020	.030	.040	.050	.065	.080	.095	.110	.125	...	...	...	...
Available Fuel	Chimney Size, Ins.	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...	...	...	...
360 Lbs.	Chimney Height, Ft.	...	...	35	35	35	35	35	35	35	35	35	...	...	...	...

* Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

NO. 2 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)														
	Steam (240 B.t.u.)	**300**	**425**	**550**	**675**	**800**	**925**	**1050**	**1175**	**1300**	**1425**	**1550**	**1675**	**1800**	**1925**	**2050**
	Water (150 B.t.u.)	**480**	**680**	**880**	**1080**	**1280**	**1480**	**1680**	**1880**	**2080**	**2280**	**2480**	**2680**	**2880**	**3080**	**3280**
	Output in (1000's) B.t.u. per Hr	**72**	**102**	**132**	**162**	**192**	**222**	**252**	**282**	**312**	**342**	**372**	**402**	**432**	**462**	**492**
2-S-8 **2-W-8**	Time Available Fuel Will Last, Hrs.*	...	....	28.4	23.2	19.4	16.7	14.7	13.0	11.7	10.5	9.6	8.8	8.1	....	....
Grate Area 6.17 Sq. Ft.	Overall Efficiency of Boiler, %	...	...	71.5	71.5	71.0	70.7	70.5	70.0	69.5	68.5	68.0	67.0	66.5	....	....
	Stack Gas Temperature, °F	...	...	450	500	540	590	640	680	720	770	820	860	900	....	....
Fuel Cap. 560 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	..	2.4	2.9	3.5	4.1	4.6	5.2	5.8	6.5	7.1	7.7	8.4	....	....
Available Fuel 420 Lbs.	Draft Required, Ins. of Water	...	...	.015	.020	.030	.045	.055	.070	.080	.095	.110	.130	.140	....	....
	Chimney Size, Ins.	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	....	....
	Chimney Height, Ft.	...	...	40	40	40	40	40	40	40	40	40	40	40	....	....
2-S-9 **2-W-9**	Time Available Fuel Will Last, Hrs.*	...	...	...	26.6	22.4	19.3	16.9	15.1	13.6	12.2	11.1	10.2	9.4	8.6	8.0
Grate Area 7.06 Sq. Ft.	Overall Efficiency of Boiler, %	...	...	...	71.7	71.5	71.5	71.0	70.7	70.5	69.5	69.0	68.5	67.5	66.5	65.5
	Stack Gas Temperature, °F	...	...	...	480	520	550	590	630	670	700	740	780	820	860	900
Fuel Cap. 640 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	...	2.6	3.0	3.5	4.0	4.5	5.0	5.6	6.1	6.7	7.2	7.9	8.5
Available Fuel 480 Lbs.	Draft Required, Ins. of Water	...	...	...	.020	.030	.040	.050	.060	.075	.085	.100	.110	.125	.140	.155
	Chimney Size, Ins.	...	...	...	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16
	Chimney Height, Ft.	...	...	...	40	40	40	40	40	40	40	40	40	40	40	40

NO. 2 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																
	Steam (240 B.t.u.)........	675	800	925	1050	1175	1300	1425	1550	1675	1800	1925	2050	2175	2300	2425	2550
	Water (150 B.t.u.)........	1080	1280	1480	1680	1880	2080	2280	2480	2680	2880	3080	3280	3480	3680	3880	4080
	Output in (1000's) B.t.u. per Hr................	162	192	222	252	282	312	342	372	402	432	462	492	522	552	582	612
2-S-10 **2-W-10**	Time Available Fuel Will Last, Hrs.*............	30.1	25.3	21.9	19.2	17.1	15.4	13.9	12.7	11.7	10.7	10.0	9.3	8.6	8 0	...	..
Grate Area	Overall Efficiency of Boiler, %....................	72.3	72.0	72.0	71.7	71.5	71.0	70.5	70 0	69.5	68.6	68.3	67.5	66.5	65.5	..	..
7.95 Sq. Ft.	Stack Gas Temperature, °F.	460	490	520	560	600	630	660	700	740	770	800	840	880	910	...	...
Fuel Cap. 720 Lbs.	Fuel Burned per Sq. Ft. of Grate Per Hr., Lbs......	2.3	2.7	3.1	3.5	4.0	4.4	4.9	5.4	5.8	6.4	6.8	7.3	7.9	8.5	...	...
Available Fuel	Draft Required, Ins. of Water	.020	.025	.035	.045	.055	.070	.080	.090	.100	.120	.130	.140	.160	.170	...	...
540 Lbs.	Chimney Size, Ins...... ..	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	...	...
	Chimney Height, Ft.......	45	45	45	45	45	45	45	45	45	45	45	45	45	45	...	...
2-S-11 **2-W-11**	Time Available Fuel Will Last, Hrs.*............	...	28.4	24.5	21.6	19.2	17.2	15.6	14.3	13.1	12.1	11.3	10.4	9.8	9.1	8 5	8.0
Grate Area	Overall Efficiency of Boiler, %....................	...	72.7	72.5	72.3	72.0	71.5	71.0	70.7	70.5	70.0	69.5	68.5	68.0	67.0	66.2	65.0
8.84 Sq. Ft.	Stack Gas Temperature, °F.	...	470	500	540	560	600	630	660	690	730	750	780	820	850	880	920
Fuel Cap. 800 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	...	2.4	2.8	3.1	3 5	4.0	4.4	4.8	5.2	5.6	6 0	6.5	6.9	7.5	8.0	8.5
Available Fuel	Draft Required, Ins. of Water	...	.025	.030	.040	.050	.060	.070	.080	.090	.105	.120	.130	.140	.155	.170	180
600 Lbs.	Chimney Size, Ins...... ..	...	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16
	Chimney Height, Ft.......	...	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45

* Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

NO. 3 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																
	Steam (240 B.t.u.)	**750**	**1000**	**1250**	**1500**	**1750**	**2000**	**2250**	**2500**	**2750**	**3000**	**3250**	**3500**	**3750**	**4000**	**4250**	**4500**
	Water (150 B.t.u.)	**1200**	**1600**	**2000**	**2400**	**2800**	**3200**	**3600**	**4000**	**4400**	**4800**	**5200**	**5600**	**6000**	**6400**	**6800**	**7200**
	Output in (1000's) B.t.u. per Hr.	**180**	**240**	**300**	**360**	**420**	**480**	**540**	**600**	**660**	**720**	**780**	**840**	**900**	**960**	**1020**	**1080**
3-S-6 **3-W-6** Grate Area 6.65 Sq. Ft. Fuel Cap. 590 Lbs. Available Fuel 443 Lbs.	Time Available Fuel Will Last, Hrs.*	21.9	16.3	12.9	10.6	9.0	7.8	6.8	6.1	...	...	...	...	...	...	...	...
	Overall Efficiency of Boiler, %	71.2	70.5	69.9	69.0	68.3	67.5	66.7	65.6	...	...	...	...	...	...	...	...
	Stack Gas Temperature, °F	335	390	445	500	555	610	665	720	...	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	3.0	4.1	5.2	6.3	7.4	8.5	9.8	10.9	...	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	0.02	0.03	0.04	0.05	0.07	0.08	0.09	0.11	...	...	...	...	...	...	...	...
	Chimney Size, Ins.	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	...	...	...	...	...	...	...	...
	Chimney Height, Ft.	40	40	40	40	40	40	40	40	...	...	...	...	...	...	...	...
3-S-7 **3-W-7** Grate Area 8.00 Sq. Ft. Fuel Cap. 710 Lbs. Available Fuel 533 Lbs.	Time Available Fuel Will Last, Hrs.*	...	20.0	15.8	13.0	11.0	9.5	8.4	7.4	6.7	6.0	...	...	...	...	...	...
	Overall Efficiency of Boiler, %	...	72.0	71.3	70.5	69.6	68.7	67.8	66.8	65.9	64.8	...	...	...	...	...	...
	Stack Gas Temperature, °F	...	385	435	485	535	585	635	685	735	785	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	3.3	4.2	5.1	6.1	7.0	8.0	9.0	10.0	11.1	...	...	...	...	...	...
	Draft Required, Ins. of Water	...	0.03	0.03	0.04	0.05	0.06	0.08	0.09	0.11	0.12	...	...	...	...	...	...
	Chimney Size, Ins.	...	16x16	16x16	16x16	16x16	16x16	161x6	16x16	16x16	16x16	...	...	...	...	...	...
	Chimney Height, Ft.	...	45	45	45	45	45	45	45	45	45	...	...	...	...	...	...
3-S-8 **3-W-8** Grate Area 9.35 Sq. Ft. Fuel Cap. 830 Lbs. Available Fuel 623 Lbs.	Time Available Fuel Will Last, Hrs.*	...	...	18.7	15.4	13.1	11.3	10.0	8.8	7.9	7.2	6.5	6.0	...	...	...	...
	Overall Efficiency of Boiler, %	...	...	72.2	71.5	70.7	69.9	69.1	68.2	67.3	66.4	65.4	64.5	...	...	...	...
	Stack Gas Temperature, °F	...	...	390	440	490	540	590	640	690	740	790	840	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	3.6	4.3	5.1	5.9	6.7	7.6	8.4	9.3	10.3	11.1	...	...	...	...
	Draft Required, Ins. of Water	...	...	0.03	0.04	0.05	0.06	0.07	0.08	0.09	0.11	0.12	0.14	...	...	...	...
	Chimney Size, Ins.	...	...	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	...	...	...	...
	Chimney Height, Ft.	...	...	50	50	50	50	50	50	50	50	50	50	...	...	...	...

NO. 3 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																			
	Steam (240 B.t.u.)	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
	Water (150 B.t.u.)	2400	2800	3200	3600	4000	4400	4800	5200	5600	6000	6400	6800	7200	7600	8000	8400	8800	9200	9600
	Output in (1000's) B.t.u. per Hr.	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440
3-S-9 **3-W-9**	Time Available Fuel Will Last, Hrs.*	17.9	15.1	13.1	11.5	10.3	9.2	8.4	7.6	7.0	6.4	6.0	...	...	...	...	...	...	...	...
Grate Area 10.7 Sq. Ft.	Overall Efficiency of Boiler, %	72.0	71.3	70.5	69.8	69.1	68.3	67.5	66.7	65.8	65.0	64.1	...	...	...	...	...	...	...	...
	Stack Gas Temperature, °F.	430	475	520	565	610	655	700	745	790	835	880	...	...	...	...	...	...	...	...
Fuel Cap. 950 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	3.7	4.4	5.1	5.8	6.5	7.2	7.9	8.8	9.5	10.4	11.1	...	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	0.03	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.13	0.14	0.16	...	...	...	...	...	...	...	...
Available Fuel 713 Lbs.	Chimney Size, Ins.	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	...	...	...	...	...	...	...	...
	Chimney Height, Ft.	50	50	50	50	50	50	50	50	50	50	50	...	...	...	...	...	...	...	...
3-S-10 **3-W-10**	Time Available Fuel Will Last, Hrs.*	...	17.3	15.0	13.2	11.7	10.6	9.6	8.8	8.0	7.4	6.9	6.4	5.9	...	...	...	...	...	...
Grate Area 12.05 Sq. Ft.	Overall Efficiency of Boiler, %	...	72.2	71.5	70.9	70.2	69.5	68.7	68.0	67.2	66.3	65.5	64.7	63.7	...	...	...	...	...	...
	Stack Gas Temperature, °F.	...	470	510	550	590	630	670	710	750	790	830	870	910	...	...	...	...	...	...
Fuel Cap. 1070 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	3.8	4.4	5.0	5.7	6.3	7.0	7.6	8.3	9.0	9.7	10.4	11.3	...	...	...	...	...	...
	Draft Required, Ins. of Water	...	0.04	0.05	0.05	0.06	0.07	0.09	0.10	0.11	0.13	0.14	0.16	0.18	...	...	...	...	...	...
Available Fuel 803 Lbs.	Chimney Size, Ins.	...	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	...	...	...	...	...	...
	Chimney Height, Ft.	...	55	55	55	55	55	55	55	55	55	55	55	55	...	...	...	...	...	...
3-S-11 **3-W-11**	Time Available Fuel Will Last, Hrs.*	...	...	16.8	14.8	13.2	11.9	10.8	9.9	9.1	8.4	7.7	7.2	6.7	6.3	5.9	...	...	...	...
Grate Area 13.4 Sq. Ft.	Overall Efficiency of Boiler, %	...	...	72.3	71.7	71.0	70.4	69.7	69.0	68.2	67.5	66.7	65.8	64.9	64.1	63.1	...	...	...	...
	Stack Gas Temperature, °F.	...	...	470	505	545	585	620	660	695	735	775	810	850	890	925	...	...	...	...
Fuel Cap. 1190 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	4.0	4.5	5.1	5.6	6.2	6.7	7.3	7.9	8.6	9.3	9.9	10.6	11.3	...	...	...	...
	Draft Required, Ins. of Water	...	...	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.13	0.14	0.16	0.18	0.20	...	...	...	...
Available Fuel 893 Lbs.	Chimney Size, Ins.	...	...	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...	...	...
	Chimney Height, Ft.	...	...	60	60	60	60	60	60	60	60	60	60	60	60	60	...	...	...	...

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee see page 4.

NO. 3 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																			
	Steam (240 B.t.u.)........	1500	1750	2000	2250	2500	2750	3000	3250	3500	3750	4000	4250	4500	4750	5000	5250	5500	5750	6000
	Water (150 B.t.u.)........	2400	2800	3200	3600	4000	4400	4800	5200	5600	6000	6400	6800	7200	7600	8000	8400	8800	9200	9600
	Output in (1000's) B.t.u. per Hr.	360	420	480	540	600	660	720	780	840	900	960	1020	1080	1140	1200	1260	1320	1380	1440
3-S-12 **3-W-12**	Time Available Fuel Will Last, Hrs.*............	....	....	18.7	16.4	14.7	13.2	12.0	11.0	10.1	9.4	8.7	8.1	7.5	7.1	6.6	6.2	5.9	...	...
Grate Area 14.75 Sq. Ft.	Overall Efficiency of Boiler, %..................	....	....	72.8	72.2	71.6	71.0	70.4	69.8	69.2	68.6	67.9	67.2	66.4	65.6	64.7	63.8	62.9	...	...
	Stack Gas Temperature, °F.	....	....	450	485	520	555	590	625	660	695	730	765	800	835	870	905	940	...	...
Fuel Cap. 1310 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	....	....	3.6	4.1	4.5	5.0	5.5	6.1	6.6	7.1	7.7	8.2	8.9	9.4	10.1	10.7	11.3	...	...
Available Fuel 983 Lbs.	Draft Required, Ins. of Water	....	....	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.13	0.15	0.16	0.18	0.20	0.22	...	...
	Chimney Size, Ins.	....	....	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...
	Chimney Height, Ft......	....	....	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	...	...
3-S-13 **3-W-13**	Time Available Fuel Will Last, Hrs.*...........	....	....	20.5	18.1	16.2	14.6	13.3	12.2	11.2	10.4	9.7	9.0	8.4	7.9	7.4	7.0	6.6	6.2	5.9
Grate Area 16.10 Sq. Ft.	Overall Efficiency of Boiler, %..................	....	....	73.4	72.9	72.4	71.9	71.3	70.8	70.3	69.8	69.2	68.6	67.9	67.2	66.5	65.7	64.9	64.0	63.2
	Stack Gas Temperature, °F.	....	....	430	460	490	525	555	590	630	660	695	725	760	790	820	855	885	920	950
Fuel Cap. 1430 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	....	....	3.3	3.7	4.1	4.6	5.0	5.5	5.9	6.4	6.9	7.4	7.9	8.4	9.0	9.5	10.1	10.7	11.3
Available Fuel 1073 Lbs.	Draft Required, Ins. of Water	....	....	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.12	0.14	0.15	0.17	0.19	0.21	0.23	0.25
	Chimney Size, Ins.	....	....	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20
	Chimney Height, Ft......	....	....	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65

No. 4 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																		
	Steam (240 B.t.u.)	1625	2000	2375	2750	3125	3500	3875	4250	4625	5000	5375	5750	6125	6500	6875	7250	7625	8000
	Water (150 B.t.u.)	2600	3200	3800	4400	5000	5600	6200	6800	7400	8000	8600	9200	9800	10400	11000	11600	12200	12800
	Output in (1000's) B.t.u. per Hr.	390	480	570	660	750	840	930	1020	1110	1200	1290	1380	1470	1560	1650	1740	1830	1920
4-S-7 **4-W-7**	Time Available Fuel Will Last, Hrs.*	16.2	13.0	10.9	9.2	8.0	7.1	6.2	5.5	4.9	4.4	...	...	...	...	...	...	...	...
Grate Area 11.70 Sq. Ft.	Overall Efficiency of Boiler, %	71.0	70.3	69.5	68.5	67.5	66.5	65.0	63.5	61.5	59.5	...	...	...	...	...	...	...	...
	Stack Gas Temperature, °F.	480	550	600	680	740	800	870	940	1000	1060	...	...	...	...	...	...	...	...
Fuel Cap. 950 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	3.8	4.7	5.6	6.6	7.6	8.6	9.8	11.1	12.4	13.9	...	...	...	...	...	...	...	...
Available Fuel 713 Lbs.	Draft Required, Ins. of Water	0.03	0.05	0.07	0.10	0.12	0.14	0.17	0.19	0.22	0.25	...	...	...	...	...	...	...	...
	Chimney Size, Ins.	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	...	...	...	...	...	...	...	...
	Chimney **Height**, Ft.	50	50	50	50	50	50	50	50	50	50	...	...	...	...	...	...	...	...
4-S-8 **4-W-8**	Time Available Fuel Wil Last, Hrs.*	...	15.4	12.8	11.0	9.5	8.4	7.5	6.7	6.0	5.5	5.0	4.6	...	...	...	...	...	...
Grate Area 13.68 Sq. Ft.	Overall Efficiency of Boiler, %	...	71.0	70.0	69.5	68.5	67.5	66.7	65.5	64.5	63.5	62.2	60.5	...	...	...	...	...	...
	Stack Gas Temperature, °F.	...	520	560	620	680	730	780	840	900	950	1000	1050	...	...	...	...	...	...
Fuel Cap. 1110 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	4.0	4.8	5.5	6.4	7.3	8.1	9.1	10.2	11.1	12.2	13.3	...	...	...	...	...	...
Available Fuel 833 Lbs.	Draft Required, Ins. of Water	...	0.04	0.06	0.08	0.11	0.13	0.15	0.17	0.20	0.22	0.24	0.27	...	...	...	...	...	...
	Chimney Size, Ins.	...	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...	...	...	...	...
	Chimney Height, Ft.	...	55	55	55	55	55	55	55	55	55	55	55	...	...	...	...	...	...
4-S-9 **4-W-9**	Time Available Fuel Will Last, Hrs.*	...	17.7	14.9	12.7	11.0	9.7	8.7	7.8	7.1	6.5	5.9	5.4	5.0	4.6	...	...	...	...
Grate Area 15.66 Sq. Ft.	Overall Efficiency of Boiler, %	...	71.5	71.0	70.5	69.5	68.6	68.1	67.0	66.1	65.0	64.0	63.0	61.6	60.5	...	...	...	...
	Stack Gas Temperature, °F.	...	500	540	590	640	680	730	780	820	860	910	960	1000	1050	...	...	...	...
Fuel Cap. 1270 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	3.4	4.1	4.8	5.5	6.3	7.0	7.8	8.6	9.4	10.3	11.3	12.2	13.2	...	...	...	...
Available Fuel 953 Lbs.	Draft Required, Ins. of Water	...	0.03	0.04	0.06	0.08	0.10	0.12	0.15	0.17	0.19	0.22	0.24	0.26	0.29	...	...	...	...
	Chimney Size, Ins.	...	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...	...	...
	Chimney Height, Ft.	...	55	55	55	55	55	55	55	55	55	55	55	55	55	...	...	...	...

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

No. 4 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Steam (240 B.t.u.)	1625	2000	2375	2750	3125	3500	3875	4250	4625	5000	5375	5750	6125	6500	6875	7250	7625	8000
	Water (150 B.t.u.)	2600	3200	3800	4400	5000	5600	6200	6800	7400	8000	8600	9200	9800	10400	11000	11600	12200	12800
	Output in (1000's) B.t.u. per Hr.	390	480	570	660	750	840	930	1020	1110	1200	1290	1380	1470	1560	1650	1740	1830	1920
4-S-10 **4-W-10**	Time Available Fuel Will Last, Hrs.*	...	20.1	16.8	14.4	12.5	11.1	10.0	9.0	8.2	7.4	6.8	6.3	5.8	5.4	5.0	4.7	...	...
Grate Area 17.64 Sq. Ft.	Overall Efficiency of Boiler, %	...	72.0	71.5	71.0	70.1	69.5	69.1	68.3	67.5	66.5	65.7	64.5	63.5	63.0	62.0	60.5	...	...
	Stack Gas Temperature, °F.	...	480	520	560	600	640	680	720	760	800	840	880	920	960	1000	1040	...	...
Fuel Cap. 1430 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	3.0	3.6	4.2	4.9	5.5	6.1	6.8	7.4	8.2	9.0	9.7	10.5	11.3	12.2	12.9	...	...
Available Fuel	Draft Required Ins. of Water	...	0.02	0.03	0.05	0.07	0.09	0.11	0.13	0.15	0.17	0.19	0.21	0.23	0.26	0.28	0.30	...	...
1073 Lbs.	Chimney Size, Ins.	...	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...
	Chimney Height, Ft.	...	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	...	...
4-S-11 **4-W-11**	Time Available Fuel Will Last, Hrs.*	...	...	18.9	16.2	14.1	12.5	11.2	10.2	9.2	8.4	7.8	7.2	6.7	6.2	5.8	5.4	5.1	4.8
Grate Area 19.62 Sq. Ft.	Overall Efficiency of Boiler, %	...	...	72.0	71.5	71.0	70.5	69.7	69.5	68.5	67.7	67.0	66.5	65.5	64.5	64.0	63.0	62.5	61.5
	Stack Gas Temperature, °F.	...	...	500	540	580	610	640	680	720	750	790	820	860	890	920	960	1000	1030
Fuel Cap. 1590 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	3.2	3.8	4.3	4.9	5.4	6.0	6.6	7.2	7.8	8.4	9.1	9.8	10.5	11.3	11.9	12.7
Available Fuel	Draft Required Ins. of Water	...	...	0.03	0.04	0.06	0.08	0.09	0.11	0.13	0.15	0.17	0.19	0.21	0.23	0.25	0.27	0.29	0.31
1193 Lbs.	Chimney Size, Ins.	...	...	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24
	Chimney Height, Ft.	...	...	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65

No. 4 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Steam (240 B.t.u.).......	3125	3500	3875	4250	4625	5000	5375	5750	6125	6500	6875	7250	7625	8000	8375	8750	9125	9500
	Water (150 B.t.u.).......	5000	5600	6200	6800	7400	8000	8600	9200	9800	10400	11000	11600	12200	12800	13400	14000	14600	15200
	Output in (1000's) B.t.u. per Hr.	750	840	930	1020	1110	1200	1290	1380	1470	1560	1650	1740	1830	1920	2010	2100	2190	2280
4-S-12 **4-W-12**	Time Available Fuel Will Last, Hrs.*...........	15.7	13.9	12.5	11.3	10.3	9.4	8.7	8.0	7.5	6.9	6.5	6.1	5.7	5.4	5.1	4.8	...	...
Grate Area 21.60 Sq. Ft.	Overall Efficiency of Boiler, %..................	71.5	71.0	70.5	70.0	69.5	68.7	68.3	67.5	67.0	66.1	65.5	64.5	63.5	62.7	62.0	61.5	...	...
Fuel Cap. 1750 Lbs.	Stack Gas Temperature, °F.	560	590	620	660	680	720	750	780	810	840	880	910	940	980	1000	1040	...	...
AvailableFuel 1313 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs....	3.9	4.4	4.9	5.4	5.9	6.5	7.0	7.6	8.1	8.8	9.4	10.0	10.7	11.3	11.9	12.7	...	...
	DraftRequiredIns.of Water	0.05	0.07	0.08	0.10	0.12	0.13	0.15	0.17	0.19	0.21	0.23	0.25	0.27	0.29	0.31	0.33	...	...
	Chimney Size, Ins........	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	...	...
	Chimney Height, Ft......	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	...	...
4-S-13 **4-W-13**	Time Available Fuel Will Last, Hrs.*...........	17.3	15.3	13.8	12.5	11.3	10.4	9.7	8.9	8.3	7.8	7.2	6.8	6.4	6.0	5.7	5.4	5.1	4.8
Grate Area 23.58 Sq. Ft.	Overall Efficiency of Boiler, %..................	72.5	72.0	71.5	71.0	70.3	69.7	69.5	68.5	68.0	67.5	66.6	66.0	65.3	64.5	63.7	63.0	62.3	61.5
Fuel Cap. 1910 Lbs.	StackGas Temperature °F.	550	570	600	630	660	690	710	740	770	800	830	860	890	920	950	980	1010	1040
Available Fuel 1433 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs....	3.5	4.0	4.4	4.9	5.4	5.9	6.3	6.8	7.3	7.8	8.5	9.0	9.5	10.2	10.7	11.3	11.9	12.7
	DraftRequiredIns.of Water	0.04	0.05	0.06	0.08	0.09	0.11	0.13	0.14	0.16	0.18	0.20	0.22	0.24	0.26	0.28	0.30	0.33	0.35
	Chimney Size, Ins......	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24
	Chimney Height, Ft.....	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

NO. 5 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																		
	Steam (240 B.t.u.)...........	2500	3050	3600	4150	4700	5250	5800	6350	6900	7450	8000	8550	9100	9650	10200	10750	11300	11850
	Water (150 B.t.u.)...........	4000	4880	5760	6640	7520	8400	9280	10160	11040	11920	12800	13680	14560	15440	16320	17200	18080	18960
	Output in (1000's) B.t.u. per Hr.	600	732	864	996	1128	1260	1392	1524	1656	1788	1920	2052	2184	2316	2448	2580	2712	2844
5-S-8 5-W-8	Time Available Fuel Will Last, Hrs.*....................	14.5	11.8	9.9	8.5	7.4	6.5	5.8	5.2	4.7	4.3	3.9	..	...	...	..	..	...	...
Grate Area 18.83 Sq. Ft.	Overall Efficiency of Boiler, %	72.5	72.0	71.5	70.5	69.5	68.5	67.5	66.0	64.5	63.5	62.0	...	...	...	...	...	...	...
	Stack Gas Temperature, °F...	430	500	580	640	720	780	840	900	960	1000	1040	..	...	...	...	..	...	...
Fuel Cap. 1281 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.........	3.5	4.3	5.2	6.0	6.9	7.9	8.8	9.8	10.9	11.9	13.1	...	...	...	...	..	..	...
	Draft Required, Ins. of Water..	0.04	0 06	0.07	0.08	0.10	0.13	0.15	0,17	0.20	0.23	0.26	...	..	...	...	...	...	...
Available Fuel 961 Lbs.	Chimney Size, Ins...........	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...	...	.	...
	Chimney Height, Ft...	70	70	70	70	70	70	70	70	70	70	70	..	...	...	...	..	..	...
5-S-9 5-W-9	Time Available Fuel Will Last, Hrs.*.........	16.6	13.6	11.4	9.0	8.6	7.7	6.8	6.2	5.6	5,1	4 6	4.3	3.9	..	...	...	...	..
Grate Area 21.52 Sq. Ft.	Overall Efficiency of Boiler, %	72.5	72.5	72.0	71.6	71.2	70.5	69.5	68.5	67.5	66.5	65.0	64.0	62.5	...	...	..	...	...
	Stack Gas Temperature, °F...	390	450	520	580	660	720	760	820	880	920	970	1010	1040	...	...	...	...	...
Fuel Cap. 1464 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.........	3.1	3.7	4.5	5.2	5.9	6.6	7.5	8.2	9.1	10.0	11.1	11 9	13.1	...	...	...	...	...
	Draft Required, Ins. of Water..	0.03	0.04	0.05	0.07	0.09	0.11	0.13	0.15	0.17	0.20	0.22	0.25	0.27	...	...	...	...	...
Available Fuel 1098 Lbs.	Chimney Size, Ins...........	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...	...
	Chimney Height, Ft...	75	75	75	75	75	75	75	75	75	75	75	75	75	...	...	...	...	...
5-S-10 5 W-10	Time Available Fuel Will Last, Hrs.*....................	...	15.4	13.0	11.2	9.9	8.8	7.8	7.0	6.4	5.9	5.4	5.0	4.6	4.2	3.9	...	...	...
Grate Area 24.21 Sq. Ft.	Overall Efficiency of Boiler, %	...	73.0	72.7	72.5	72.0	71.5	70.5	69.5	68.7	68.0	67.0	66.0	64.5	63.5	62.5	...	...	...
	Stack Gas Temperature, °F...	...	410	470	540	590	650	700	760	820	860	910	950	1000	1030	1050	...	...	...
Fuel Cap. 1647 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.........	...	3.3	3.9	4.6	5.2	5.8	6.5	7.3	8.0	8.6	9.4	10.2	11.3	12.1	13.1	...	...	...
	Draft Required, Ins. of Water..	...	0.03	0.04	0.05	0.06	0.08	0.10	0.13	0.15	0.18	0.20	0.22	0.25	0.27	0.30	...	...	...
Available Fuel 1235 Lbs.	Chimney Size, Ins...........	...	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...
	Chimney Height, Ft.........	...	75	75	75	75	75	75	75	75	75	75	75	75	75	75	...	...	...

NO. 5 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																							
	Steam (240 B.t.u.)........	3600	4150	4700	5250	5800	6350	6900	7450	8000	8550	9100	9650	10200	10750	11300	11850	12400	12950	13500	14050	14600	15150	15700
	Water (150 B.t.u.)........	5760	6640	7520	8400	9280	10160	11040	11920	12800	13680	14560	15440	16320	17200	18080	18960	19840	20720	21600	22480	23360	24240	25120
	Output in (1000's) B.t.u. per Hr...............	864	996	1128	1260	1392	1524	1656	1788	1920	2052	2184	2316	2448	2580	2712	2844	2976	3108	3240	3372	3504	3636	3768
5-S-11 **5-W-11**	Time Available Fuel Will Last, Hrs.*............	14.6	12.6	11.0	9.7	8.8	7.9	7.2	6.6	6.1	5.6	5.2	4.8	4.5	4.2	4.0	...	...	...	...	...	...	...	...
Grate Area 26.90 Sq. Ft.	Overall Efficiency of Boiler, %....................	73.3	73.0	72.5	71.5	71.0	70.5	69.5	68.5	68.0	67.0	66.3	65.0	64.0	63.5	62.5	...	...	...	...	...	...	...	...
Fuel Cap. 1830 Lbs.	Stack Gas Temperature, °F.	430	490	540	600	650	700	750	800	840	890	920	960	1000	1020	1040	...	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	3.5	4.0	4.6	5.3	5.8	6.5	7.1	7.7	8.4	9.1	9.8	10.6	11.3	12.1	12.8	...	...	...	...	...	...	...	...
Available Fuel 1373 Lbs.	Draft Required, Ins. of Water	0.02	0.03	0.04	0.06	0.07	0.09	0.12	0.14	0.16	0.19	0.21	0.24	0.27	0.30	0.32	...	...	...	...	...	...	...	...
	Chimney Size, Ins........	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...	...	...	...	...
	Chimney Height, Ft.......	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	...	...	...	...	...	...	...	...
5-S-12 **5-W-12**	Time Available Fuel Will Last, Hrs.*............	11.7	10.1	8.8	7.8	7.1	6.4	5.8	5.4	5.0	4.6	4.2	4.0	3.7	3.5	3.3	3.1	2.9	...	...	...	...	...	...
Grate Area 21.52 Sq. Ft	Overall Efficiency of Boiler, %....................	73.5	73.2	72.7	72.0	71.6	71.3	70.5	70.0	69.5	68.5	67.5	67.0	66.5	65.5	64.5	63.5	62.5	...	...	...	...	...	...
Fuel Cap. 1464 Lbs.	Stack Gas Temperature, °F.	390	440	490	540	590	640	680	730	770	820	850	890	920	960	990	1010	1040	...	...	..	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	4.4	5.0	5.8	6.5	7.2	8.0	8.8	9.5	10.2	11.1	12.1	12.8	13.8	14.6	15.5	16.5	17.6	...	...	...	...	...	...
Available Fuel 1098 Lbs.	Draft Required, Ins. of Water	0.07	0.08	0.09	0.12	0.13	0.16	0.19	0.22	0.25	0.28	0.32	0.35	0.39	0.42	0.46	0.49	0.54	...	...	...	...	...	...
	Chimney Size, Ins........	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...	...	...
	Chimney Height, Ft.......	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	...	...	...	...	...	...

* Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

NO. 5 IDEAL REDFLASH BOILER—Performance Data—Steam and Water

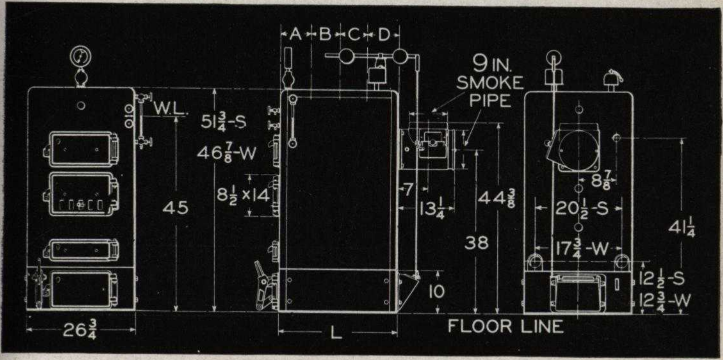
Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																							
	Steam (240 B.t.u.)...........	3600	4150	4700	5250	5800	6350	6900	450	8000	8550	9100	9650	10200	10750	11300	11850	12400	12950	13500	14050	14600	15150	15700
	Water (150 B.t.u.)...........	5760	6640	7520	8400	9280	10160	11040	11920	12800	13680	14560	15440	16320	17200	18080	18960	19840	20720	21600	22480	23360	24240	25120
	Output in (1000's) B.t.u. per Hr.	864	996	1128	1260	1392	1524	1656	1788	1920	2052	2184	2316	2448	2580	2712	2844	2976	3108	3240	3372	3504	3636	3768
5-S-13 **5-W-13**	Time Available Fuel Will Last, Hrs.*..................	...	11.4	10.1	8.9	8.0	7.3	6.7	6.1	5.6	5.2	4.8	4.5	4.3	4.0	3.7	3.5	3.3	3.2	3.0	...	...	...	...
Grate Area 24.21 Sq. Ft.	Overall Efficiency of Boiler, %	...	73.5	73.5	73.0	72.5	72.0	71.5	70.5	69.7	69.5	68.5	68.0	67.5	66.5	65.5	65.0	64.0	63.5	62.5	...	...	...	...
	Stack Gas Temperature, °F....	...	420	460	500	550	600	640	680	720	760	800	840	880	910	940	970	1000	1020	1040	...	...	...	...
Fuel Cap. 1647 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.........	...	4.5	5.0	5.7	6.4	7.0	7.6	8.4	9.1	9.8	10.6	11.3	11.8	12.7	13.8	14.6	15.5	16.4	17.0	...	...	...	...
	Draft Required, Ins. of Water	...	0.07	0.08	0.09	0.11	0.14	0.16	0.18	0.22	0.24	0.27	0.30	0.34	0.36	0.40	0.44	0.47	0.50	0.54	...	...	...	...
Available Fuel 1235 Lbs.	Chimney Size, Ins.	...	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	...	...	...	...
	Chimney Height, Ft....... .	...	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	...	...	...	...
5-S-14 **5-W-14**	Time Available Fuel Will Last, Hrs.*	...	11.4	10.1	8.9	8.0	7.3	6 7	6.1	5.7	5.3	4.9	4.6	4.3	4.0	3.8	3.6	3.4	3.2	3.0	2.9	2.7	...	...
Grate Area 24.21 Sq. Ft.	Overall Efficiency of Boiler, %	...	73.7	73.5	73.0	72.5	72.0	71.5	71.0	70.5	70.0	69.0	68.5	67.7	67.5	66.5	66.0	65.0	64.5	63.5	63.0	62.5	...	...
	Stack Gas Temperature, °F...	...	390	430	480	510	560	600	640	670	710	750	780	820	850	880	920	940	970	1000	1020	1040	...	...
Fuel Cap. 1647 Lbs.	Fuel Burned per Sq. Ft. of Grate pet Hr., Lbs.........	...	4.5	5.1	5.7	6.4	7.0	7.6	8.4	8.9	9.6	10.4	11.1	11.8	12.7	13.4	14.2	15.0	15.9	17.0	17.6	18.9	...	...
	Draft Required, Ins. of Water	...	0.06	0.07	0.08	0.10	0.12	0.14	0.17	0.20	0.22	0.25	0.28	0.32	0.35	0.38	0.41	0.45	0.48	0.52	0.56	0.59	...	...
Available Fuel 1235 Lbs.	Chimney Size, Ins...........	...	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	...	...
	Chimney Height, Ft.........	...	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	...	...
5-S-15 **5-W-15**	Time Available Fuel Will Last, Hrs.*.	...	...	11.3	10.0	9.1	8.2	7.5	6.9	6.4	5.9	5.5	5.1	4.8	4.5	4.3	4.0	3.8	3.6	3.4	3.2	3.1	2.9	2.8
Grate Area 26.90 Sq. Ft.	Overall Efficiency of Boiler, %	...	...	74.0	73.7	73.5	72.5	72.0	71.5	71.0	70.0	69.5	69.3	68.5	68.0	67.5	66.5	65.7	65.3	64.5	63.5	62.5	62.0	60.5
	Stack Gas Temperature, °F..	...	...	400	440	480	520	560	600	630	670	700	740	770	800	840	860	880	920	940	960	970	980	1000
Fuel Cap. 1830 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lb........	...	...	4.5	5.1	5.6	6.2	6.8	7.4	8.0	8.7	9.3	10.0	10.6	11.4	11.9	12.8	13.4	14.2	15.0	16.0	16.5	17.6	18.3
	Draft Required, Ins. of Water	...	...	0.06	0.07	0.08	0.10	0.13	0.15	0.18	0.20	0.23	0.26	0.30	0.32	0.36	0.39	0.43	0.46	0.50	0.54	0.57	0.60	0.66
Available Fuel 1373 Lbs.	Chimney Size, Ins.	...	...	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36
	Chimney Height, Ft........	...	...	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95

*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

No. 1 Ideal Redflash Boiler—Steam and Water

BURNS ALL FUELS

Dimensions—Outlets—Inlets



Steam Boilers tapped 1½″ *For External Water Heater*. (*See Note on page* 118).

No. of Boiler		Outlet No. and Size	Inlets No. and Size		Dimensions, Inches, for Locating Flow Tappings				
Steam	Water		Steam	Water	A	B	C	D	L
1-S-5	1-W-5	1-3″	2-2″	2-3″	15½	....	...	4½	20
1-S-6	1-W-6	2-3″	2-2″	2-3″	12	7½	...	4½	24
1-S-7	1-W-7	2-3″	2-2″	2-3″	8	15½	...	4½	28
1-S-8	1-W-8	2-3″	2-2″	2-3″	12	15½	...	4½	32
1-S-9	1-W-9	2-3″	2-2″	2-3″	16	15½	...	4½	36
1-S-10	1-W-10	3-3″	2-2″	2-3″	12	16	7½	4½	40
1-S-11	1-W-11	3-3″	2-2″	2-3″	8	16	15½	4½	44

ASSEMBLAGE OF SECTIONS

No. of Boiler		Assemblage
Steam	Water	
1-S-5	1-W-5	A-FC-BX
1-S-6	1-W-6	F-CX-BX
1-S-7	1-W-7	A-FCX-C-BX
1-S-8	1-W-8	F-CX-C-BX
1-S-9	1-W-9	A-FC-CX-C-BX
1-S-10	1-W-10	F-CX-C-CX-BX
1-S-11	1-W-11	A-FCX-C-CX-C-BX

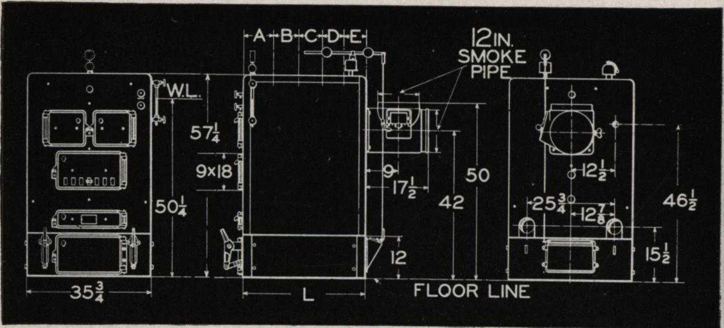
A = 4″ Front Section.
F = 8″ Front Section.
FC = 8″ Front Center Section.
FCX = 8″ Front Center Connecting Section.

C = 8″ Center Section.
CX = 8″ Center Connecting Section.
BX = 8″ Back Connecting Section.

No. 2 Ideal Redflash Boiler—Steam or Water

ANTHRACITE

Dimensions—Outlets—Inlets



Tapped 1½" For External Water Heater. (*See Note on page* 118).

Number of Boiler		Outlets No. and Size	Inlets No. and Size	Dimensions, Inches, for Locating Flow Tappings					
Steam	Water			A	B	C	D	E	L
2-S-5	2-W-5	2-4"	2-4"	10	10	..	"D" Tapping not included on this boiler	5	25
2-S-6	2-W-6	2-4"	2-4"	15	10	..		5	30
2-S-7	2-W-7	2-4"	2-4"	10	20	..		5	35
2-S-8	2-W-8	2-4"	2-4"	15	20	..		5	40
2-S-9	2-W-9	2-4"	2-4"	10	30	..		5	45
2-S-10	2-W-10	2-4"	2-4"	15	30	..		5	50
2-S-11	2-W-11	3-4"	2-4"	10	20	20		5	55

ASSEMBLAGE OF SECTIONS

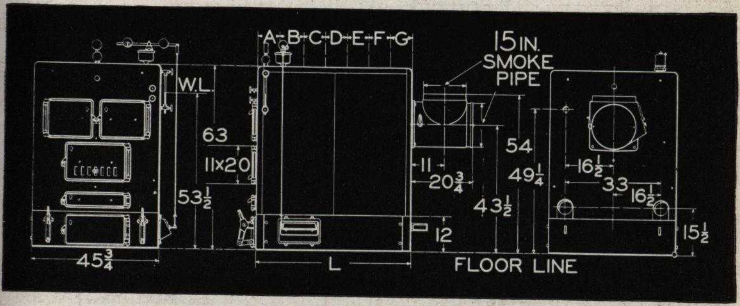
Number of Boiler		Assemblage
Steam	Water	
2-S-5	2-W-5	A-FCX-BX
2-S-6	2-W-6	F-CX-BX
2-S-7	2-W-7	A-FCX-C-BX
2-S-8	2-W-8	F-CX-C-BX
2-S-9	2-W-9	A-FCX-C-C-BX
2-S-10	2-W-10	F-CX-C-C-BX
2-S-11	2-W-11	A-FCX-C-CX-C-BX

A = 5" Front Section.
F = 10" Front Section.
FCX = 10" Front Center Connecting Section.
C = 10" Center Section.
CX = 10" Center Connecting Section.
BX = 10" Back Connecting Section.

No. 3 Ideal Redflash Boiler—Steam or Water

ANTHRACITE

Dimensions—Outlets—Inlets



Tapped 2″ For External Water Heater. (*See Note on page* 118).

Number of Boiler		Outlets No. and Size	Inlets No. and Size	Dimensions—Inches, for Locating Flow Tappings							
Steam	Water			A	B	C	D	E	F	G	L
3-S-6	3-W-6	2-4″	2-5″	9	18	..	..	..	“F” Tapping not included on this boiler	9	36
3-S-7	3-W-7	3-4″	2-5″	9	12	12	..	..		9	42
3-S-8	3-W-8	3-4″	2-5″	9	18	12	..	..		9	48
3-S-9	3-W-9	4-4″	2-5″	9	12	12	12	..		9	54
3-S-10	3-W-10	4-4″	2-5″	9	12	12	12	..		15	60
3-S-11	3-W-11	4-4″	2-5″	9	12	18	18	..		9	66
3-S-12	3-W-12	5-4″	2-5″	9	18	12	12	12		9	72
3-S-13	3-W-13	5-4″	2-5″	9	18	18	12	12		9	78

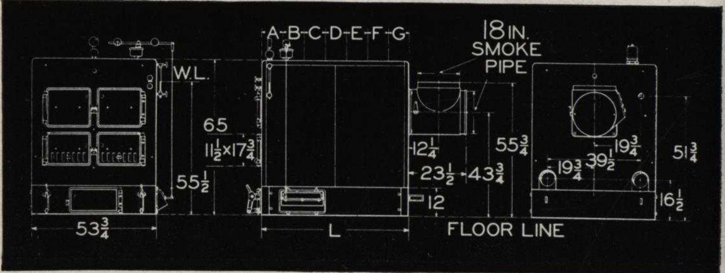
ASSEMBLAGE OF SECTIONS

Number of Boiler		Assemblage
Steam	Water	
3-S-6	3-W-6	F-FCX-C-C-RCX-B
3-S-7	3-W-7	F-FCX-C-CX-C-RCX-B
3-S-8	3-W-8	F-FCX-C-C-CX-RC-RCX-B
3-S-9	3-W-9	F-FCX-C-CX-C-CX-RC-RCX-B
3-S-10	3-W-10	F-FCX-C-CX-C-CX-C-RCX-RC-B
3-S-11	3-W-11	F-FCX-C-CX-C-C-CX-C-RC-RCX-B
3-S-12	3-W-12	F-FCX-C-C-CX-C-CX-C-RCX-RC-RCX-B
3-S-13	3-W-13	F-FCX-C-C-CX-C-C-CX-C-RCX-RC-RCX-B

F = 6″ Front Section.
FCX = 6″ Front Center Connecting Section.
C = 6″ Center Section.
CX = 6″ Center Connecting Section.
RC = 6″ Rear Center Uptake Section.
RCX = 6″ Rear Center Uptake Connecting Section.
B = 6″ Back Section.

No. 4 Ideal Redflash Boiler—Steam or Water
ANTHRACITE

Dimensions—Outlets—Inlets



Tapped 2″ For External Water Heater. (*See Note on page* 118).

Number of Boiler		Outlets Number and Size	Inlets Number and Size	Dimensions, Ins., for Locating Flow Tappings							
Steam	Water			A	B	C	D	E	F	G	L
4-S-7	4-W-7	3-4″	2-6″	10½	14	14	..	..	..	10½	49
4-S-8	4-W-8	3-4″	2-6″	10½	14	14	..	..	..	17½	56
4-S-9	4-W-9	4-4″	2-6″	10½	14	14	14	..	..	10½	63
4-S-10	4-W-10	4-4″	2-6″	10½	14	14	14	..	..	17½	70
4-S-11	4-W-11	5-4″	2-6″	10½	14	14	14	14	..	10½	77
4-S-12	4-W-12	5-4″	2-6″	10½	14	14	14	14	..	17½	84
4-S-13	4-W-13	6-4″	2-6″	10½	14	14	14	14	14	10½	91

ASSEMBLAGE OF SECTIONS

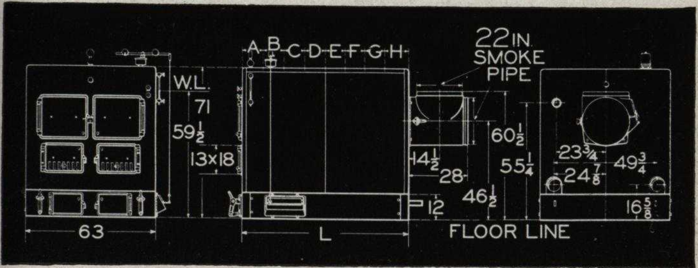
Number of Boiler		Assemblage
Steam	Water	
4-S-7	4-W-7	F-FCX-C-CX-RC-RCX-B
4-S-8	4-W-8	F-FCX-C-CX-C-RCX-RC-B
4-S-9	4-W-9	F-FCX-C-CX-C-RCX-RC-RCX-B
4-S-10	4-W-10	F-FCX-C-CX-C-CX-RC-RCX-RC-B
4-S-11	4-W-11	F-FCX-C-CX-C-CX-C-RCX-RC-RCX-B
4-S-12	4-W-12	F-FCX-C-CX-C-CX-C-CX-RC-RCX-RC-B
4-S-13	4-W-13	F-FCX-C-CX-C-CX-C-CX-C-RCX-RC-RCX-B

F = 7″ Front Section.
FCX = 7″ Front Center Connecting Section.
C = 7″ Center Section.
CX = 7″ Center Connecting Section.
RC = 7″ Rear Center Uptake Section.
RCX = 7″ Rear Center Uptake Connecting Section.
B = 7″ Back Section.

No. 5 Ideal Redflash Boiler—Steam or Water

ANTHRACITE

Dimensions—Outlets—Inlets



Tapped 3″ For External Water Heater. (*See Note on page* 118).

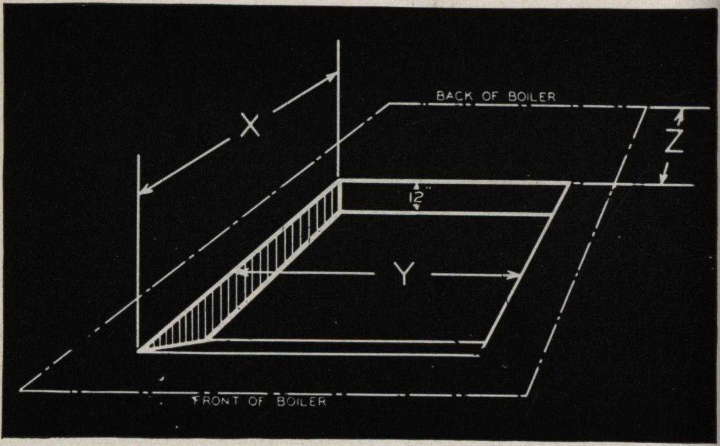
Number of Boiler		Outlets Number and Size	Inlets Number and Size	Dimensions, Inches, for Locating Flow Tappings								
Steam	Water			A	B	C	D	E	F	G	H	L
5-S-8	5-W-8	3-5″	2-6″	12	24	16	..	..	..	"G" Tapping not included in this boiler	12	64
5-S-9	5-W-9	4-5″	2-6″	12	16	16	16	..	..		12	72
5-S-10	5-W-10	4-5″	2-6″	12	16	24	16	..	..		12	80
5-S-11	5-W-11	5-5″	2-6″	12	16	16	16	16	..		12	88
5-S-12	5-W-12	5-5″	2-6″	12	16	16	16	16	..		20	96
5-S-13	5-W-13	5-5″	2-6″	12	16	24	16	24	..		12	104
5-S-14	5-W-14	6-5″	2-6″	12	16	16	24	16	16		12	112
5-S-15	5-W-15	6-5″	2-6″	12	16	24	16	24	16		12	120

ASSEMBLAGE OF SECTIONS

Number of Boiler		Assemblage
Steam	Water	
5-S-8	5-W-8	F-FCX-C-C-CX-RC-RCX-B
5-S-9	5-W-9	F-FCX-C-CX-C-CX-RC-RCX-B
5-S-10	5-W-10	F-FCX-C-CX-C-C-CX-RC-RCX-B
5-S-11	5-W-11	F-FCX-C-CX-C-CX-C-CX-RC-RCX-B
5-S-12	5-W-12	F-FCX-C-CX-C-CX-C-CX-BW-RCX-RC-BD
5-S-13	5-W-13	F-FCX-C-CX-C-C-CX-C-CX-BW-RC-RCX-BD
5-S-14	5-W-14	F-FCX-C-CX-C-CX-C-C-CX-BW-RCX-RC-RCX-BD
5-S-15	5-W-15	F-FCX-C-CX-C-C-CX-C-CX-C-BW-RCX-RC-RCX-BD

F = 8″ Front Section.
FCX = 8″ Front Center Connecting Section.
C = 8″ Center Section.
CX = 8″ Center Connecting Section.
BW = 8″ Bridgewall Section.
RC = 8″ Rear Center Uptake Section.
RCX = 8″ Rear Center Uptake Connecting Section.
B = 8″ Back Section.
BD = 8″ Back Section with Cleanout Door.

Ideal Redflash Boilers
ANTHRACITE
Ashpit Dimensions



No. 2 Ideal Redflash Boiler

Number of Sections	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
5	12	17	29	4
6	12	22	29	4
7	12	27	29	4
8	12	32	29	4
9	12	37	29	4
10	12	42	29	4
11	12	47	29	4

No. 4. Ideal Redflash Boiler

Number of Sections	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
7	12	39	47	5
8	12	46	47	5
9	12	53	47	5
10	12	60	47	5
11	12	67	47	5
12	12	74	47	5
13	12	81	47	5

No. 3. Ideal Redflash Boiler

Number of Sections	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
6	12	28	39	4
7	12	34	39	4
8	12	40	39	4
9	12	46	39	4
10	12	52	39	4
11	12	58	39	4
12	12	64	39	4
13	12	70	39	4

No. 5. Ideal Redflash Boiler

Number of Sections	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
8	12	54	57	5
9	12	62	57	5
10	12	70	57	5
11	12	78	57	5
12	12	61	57	30
13	12	61	57	38
14	12	69	57	38
15	12	69	57	46

Ideal Redflash Boilers
ANTHRACITE
Arrangement of Grate Bars

No. 1 Ideal Redflash Boiler

Boiler Number	Grates
1-S or W- 5	3
1-S or W- 6	4
1-S or W- 7	5
1-S or W- 8	6
1-S or W- 9	7
1-S or W-10	8
1-S or W-11	9

No. 2 Ideal Redflash Boiler

Boiler Number	Left Front	Right Rear
2-S or W- 5	3	...
2-S or W- 6	4	...
2-S or W- 7	5	...
2-S or W- 8	6	...
2-S or W- 9	7	...
2-S or W-10	4	4
2-S or W-11	5	4

No. 3 Ideal Redflash Boiler

Boiler Number	Left Front	Right Rear
3-S or W- 6	4	...
3-S or W- 7	3	2
3-S or W- 8	3	3
3-S or W- 9	4	3
3-S or W-10	4	4
3-S or W-11	5	4
3-S or W-12	5	5
3-S or W-13	6	5

No. 4 Ideal Redflash Boiler

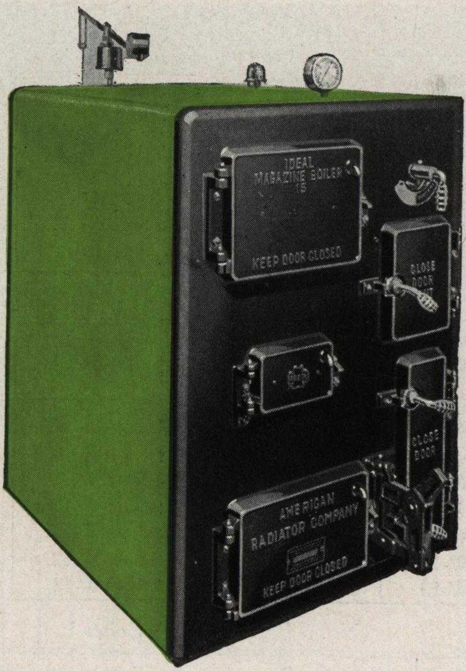
Boiler Number	Left Front	Right Rear
4-S or W- 7	3	2
4-S or W- 8	3	3
4-S or W- 9	4	3
4-S or W-10	4	4
4-S or W-11	5	4
4-S or W-12	5	5
4-S or W-13	6	5

No. 5 Ideal Redflash Boiler

Boiler Number	Left Front	Right Rear	Dead Plates		
			Single	Double	Rear
5-S or W- 8	3	3	...	...	...
5-S or W- 9	4	3	...	...	...
5-S or W-10	4	4	...	...	...
5-S or W-11	5	4	...	...	...
5-S or W-12	4	3	1	...	1
5-S or W-13	4	4	1	...	1
5-S or W-14	4	4	...	1	1
5-S or W-15	5	4	...	1	1

IDEAL MAGAZINE BOILER

For Coke or Anthracite, or a Mixture of Either with Buckwheat or Pea Coal



No. "15" Magazine Boiler

Tapped for External Water Heater—See Note Page 118

For Explanation of Boiler Selection	See pages	4–6
For Guarantee	See Page	4
For Performance Data and Outputs	See Pages	58 & 60
For Data on Dimensions and Assemblage of Sections	See Page	62
For Data on Sundries and Trimmings	See Page	168

IDEAL MAGAZINE BOILER

For Coke or Anthracite, or a Mixture of Either with Buckwheat or Pea Coal

No. "25" Magazine Boiler

Tapped for External Water Heater—See Note Page 118

For Explanation of Boiler Selection....................	See Pages	4–6
For Guarantee..................................	See Page	4
For Performance Data and Outputs....................	See Pages	59 & 61
For Data on Dimensions and Assemblage of Sections.....	See Page	63
For Data on Sundries and Trimmings..................	See Page	168

Ideal Magazine Boiler "15"

PERFORMANCE DATA (ANTHRACITE) STEAM & WATER

Number of Boiler	Output in Equivalent Direct Radiation [Sq. Ft.]																						
	STEAM [240 B. t. u.]		200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1150	1250	1350
	WATER [150 B. t. u.]		320	400	480	560	640	720	800	880	960	1040	1120	1200	1280	1360	1440	1520	1600	1680	1840	2000	2160
	Output in [1000's] B.t.u. per Hour		48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	276	300	324
15-S-04	Time Available Fuel will last	Hrs.*	32	26	21½	18½	16¼	14½	13	11¾	...	...	...	...	...	...	...	...	...	...	...	...	...
15-W-04	Overall Efficiency of Boiler	%	70.5	71	71.5	71.5	72	72	71.5	71.5	...	...	...	...	...	...	...	...	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	310	340	365	395	420	450	475	505	...	...	...	...	...	...	...	...	...	...	...	...	...
1.82 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate	per Hr., Lbs.	3.0	3.7	4.4	5.2	5.9	6.6	7.4	8.1	...	...	...	...	...	...	...	...	...	...	...	...	...
215 Lbs.	Draft Required	Inches of Water	.025	.035	.045	.055	.065	.075	.10	.12	...	...	...	...	...	...	...	...	...	...	...	...	...
Available Fuel	Chimney Size	Inches	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...	...	...	...	...	...	...	...	...	...	...	...
175 Lbs.	Chimney Height	Feet	35	35	35	35	35	35	35	35	...	...	...	...	...	...	...	...	...	...	...	...	...
15-S-05	Time Available Fuel will last	Hrs.*	...	...	30½	26	23	20½	18½	16¾	15½	14¼	13¼	12¼	...	...	...	...	...	...	...	...	...
15-W-05	Overall Efficiency of Boiler	%	...	...	71.5	72	72	72.5	72.5	72.5	72.5	72.5	72	72	...	...	...	...	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	...	...	325	350	370	395	415	440	460	485	505	530	...	...	...	...	...	...	...	...	...
2.60 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate	per Hr., Lbs.	...	...	3.1	3.6	4.1	4.6	5.1	5.6	6.1	6.6	7.2	7.7	...	...	...	...	...	...	...	...	...
300 Lbs.	Draft Required	Inches of Water	...	...	.035	.04	.045	.05	.06	.07	.08	.09	.105	.125	...	...	...	...	...	...	...	...	...
Available Fuel	Chimney Size	Inches	...	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...	...	...	...	...
245 Lbs.	Chimney Height	Feet	...	...	35	35	35	35	35	35	35	35	35	35	...	...	...	...	...	...	...	...	...
15-S-06	Time Available Fuel will last	Hrs.*	...	...	...	...	29½	26½	24	21¾	20	18½	17¼	16	15	14	13¼	12½	...	...	...	...	...
15-W-06	Overall Efficiency of Boiler	%	...	...	...	...	72.5	73	73	73	73.5	73.5	73	73	73	73	72.5	72.5	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	...	...	...	...	340	360	375	395	415	430	450	470	485	505	525	540	...	...	...	...	...
3.38 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate	per Hr., Lbs.	...	...	...	...	3.1	3.5	3.9	4.3	4.6	5.0	5.4	5.8	6.2	6.6	7.0	7.4	...	...	...	...	...
385 Lbs.	Draft Required	Inches of Water	...	...	...	...	.04	.045	.05	.06	.065	.07	.075	.085	.095	.105	.115	.135	...	...	...	...	...
Available Fuel	Chimney Size	Inches	...	...	...	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...
315 Lbs.	Chimney Height	Feet	...	...	...	...	40	40	40	40	40	40	40	40	40	40	40	40	...	...	...	...	...
15-S-07	Time Available Fuel will last	Hrs.*	...	...	...	...	...	...	29½	27	24½	22½	21	19¾	18½	17¼	16¼	15½	14¾	14	12¾	...	...
15-W-07	Overall Efficiency of Boiler	%	...	...	...	...	...	...	73	73.5	73.5	73.5	74	74	73.5	73.5	73.5	73.5	73	73	73	...	...
Grate Area	Stack Gas Temperature	°F	...	...	...	...	...	...	345	360	375	390	405	420	435	450	465	480	495	510	540	...	...
4.16 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate	per Hr., Lbs.	...	...	...	...	...	...	3.2	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.7	6.0	6.3	6.6	7.3	...	...
470 Lbs.	Draft Required	Inches of Water	...	...	...	...	...	...	.04	.045	.05	.06	.065	.07	.075	.08	.085	.095	.11	.12	.14	...	...
Available Fuel	Chimney Size	Inches	...	...	...	...	...	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...
385 Lbs.	Chimney Height	Feet	...	...	...	...	...	...	40	40	40	40	40	40	40	40	40	40	40	40	40	...	...
15-S-08	Time Available Fuel will last	Hrs.*	...	...	...	...	...	...	...	...	29	27	25	23½	22	20½	19½	18½	17½	16¾	15¼	14	12¾
15-W-08	Overall Efficiency of Boiler	%	...	...	...	...	...	...	...	...	74	74.5	74.5	74.5	74.5	74.5	74.5	74.5	74	74	74	73.5	73.5
Grate Area	Stack Gas Temperature	°F	...	...	...	...	...	...	...	...	350	365	375	390	405	415	430	445	455	470	495	520	545
4.94 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate	per Hr., Lbs.	...	...	...	...	...	...	...	...	3.2	3.4	3.7	3.9	4.2	4.4	4.7	4.9	5.2	5.5	6.0	6.6	7.1
555 Lbs.	Draft Required	Inches of Water	...	...	...	...	...	...	...	...	.045	.05	.06	.065	.07	.075	.08	.085	.09	.10	.11	.125	.15
Available Fuel	Chimney Size	Inches	...	...	...	...	...	...	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12
455 Lbs.	Chimney Height	Feet	...	...	...	...	...	...	...	...	45	45	45	45	45	45	45	45	45	45	45	45	45

*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

Ideal Magazine Boiler "25"

PERFORMANCE DATA (ANTHRACITE) STEAM & WATER

Number of Boiler	Output in Equivalent Direct Radiation [Sq.Ft.] STEAM [240 B. t. u.*		300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400
	WATER [150 B. t. u.]		480	720	960	1200	1440	1680	1920	2160	2400	2640	2880	3120	3360	3600	3840
	Output in [1000's] B. t. u. per Hour		72	108	144	180	216	252	288	324	360	396	432	468	504	540	576
25-S-05	Time Available Fuel will last	Hrs.*	36	24	18¼	14¾	12	...	...	...	...	...	...	...	...	...	...
25-W-05	Overall Efficiency of Boiler	%	70	71	71.5	71.5	71	...	...	...	...	...	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	305	370	435	500	565	...	...	...	...	...	...	...	...	...	...
3.35 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		2.5	3.6	4.8	6.0	7.3	...	...	...	...	...	...	...	...	...	...
Fuel Cap. 360 Lbs.	Draft required	Inches of Water	.025	.04	.055	.07	.095	...	...	...	...	...	...	...	...	...	...
Available Fuel	Chimney Size	Inches	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...	...	...	...	...	...
295 Lbs.	Chimney Height	Feet	35	35	35	35	35	...	...	...	...	...	...	...	...	...	...
25-S-06	Time Available Fuel will last	Hrs.*	...	32	24	19½	16¼	13¾	12	...	...	...	...	...	...	...	...
25-W-06	Overall Efficiency of Boiler	%	...	71	71.5	72	72	71.5	71	...	...	...	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	...	340	395	445	500	555	610	...	...	...	...	...	...	...	...
4.3 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	2.8	3.8	4.7	5.6	6.6	7.5	...	...	...	...	...	...	...	...
Fuel Cap. 470 Lbs.	Draft required	Inches of Water	...	.035	.045	.055	.07	.085	.115	...	...	...	...	...	...	...	...
Available Fuel	Chimney Size	Inches	...	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...	...	...	...
390 Lbs.	Chimney Height	Feet	...	35	35	35	35	35	35	...	...	...	...	...	...	...	...
25-S-07	Time Available Fuel will last	Hrs.*	...	...	30	24½	20½	17¼	15	13¼	12	...	...	...	...	...	...
25-W-07	Overall Efficiency of Boiler	%	...	...	72	72.5	72.5	72	71.5	71.5	71	...	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	...	...	360	410	455	500	545	595	640	...	...	...	...	...	...
5.25 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	...	3.0	3.8	4.5	5.3	6.1	6.9	7.7	...	...	...	...	...	...
Fuel Cap. 580 Lbs.	Draft required	Inches of Water	...	...	.04	.05	.06	.075	.09	.11	.13	...	...	...	...	...	...
Available Fuel	Chimney Size	Inches	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...	...	...	...	...	...
485 Lbs.	Chimney Height	Feet	...	...	35	35	35	35	35	35	35	...	...	...	...	...	...
25-S-08	Time Available Fuel will last	Hrs.*	...	...	...	29½	24½	21	18¼	16¼	14½	13	12	...	...	...	...
25-W-08	Overall Efficiency of Boiler	%	...	...	...	73	73	73	72.5	72	71.5	71	71	...	...	...	...
Grate Area	Stack Gas Temperature	°F	...	...	...	375	410	450	490	530	570	610	650	...	...	...	...
6.2 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	...	...	3.2	3.8	4.4	5.1	5.8	6.5	7.2	7.9	...	...	...	...
Fuel Cap. 690 Lbs.	Draft required	Inches of Water	...	...	...	.045	.055	.065	.075	.095	.11	.13	.15	...	...	...	...
Available Fuel	Chimney Size	Inches	...	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...	...	...	...
580 Lbs.	Chimney Height	Feet	...	...	...	40	40	40	40	40	40	40	40	...	...	...	...
25-S-09	Time Available Fuel will last	Hrs.*	...	...	...	...	28½	24½	21½	19¼	17	15¼	14	12¾	12	...	...
25-W-09	Overall Efficiency of Boiler	%	...	...	...	...	73.5	73.5	73.5	73.5	73	72.5	72	71.5	71	...	...
Grate Area	Stack Gas Temperature	°F	...	...	...	...	385	420	455	490	525	560	600	635	670	...	...
7.15 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	...	...	...	3.3	3.8	4.4	4.9	5.5	6.1	6.7	7.3	7.9	...	...
Fuel Cap. 800 Lbs.	Draft required	Inches of Water	...	...	...	...	.05	.06	.07	.085	.095	.11	.125	.15	.175	...	...
Available Fuel	Chimney Size	Inches	...	...	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...	...
675 Lbs.	Chimney Height	Feet	...	...	...	...	40	40	40	40	40	40	40	40	40	...	...
25-S-10	Time Available Fuel will last	Hrs.*	...	...	...	...	...	28	25	22	19½	17¾	16¼	15	13¾	12¾	12
25-W-10	Overall Efficiency of Boiler	%	...	...	...	...	...	74	74	74	73.5	73.5	73.5	73	72.5	72	71.5
Grate Area	Stack Gas Temperature	°F	...	...	...	...	...	395	430	460	490	525	555	585	620	650	680
8.1 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	...	...	...	...	3.3	3.8	4.3	4.8	5.3	5.8	6.3	6.9	7.4	8.0
Fuel Cap. 910 Lbs.	Draft required	Inches of Water	...	...	...	...	...	.055	.065	.075	.09	.10	.11	.125	.145	.165	.195
Available Fuel	Chimney Size	Inches	...	...	...	...	...	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16
770 Lbs.	Chimney Height	Feet	...	...	...	...	...	45	45	45	45	45	45	45	45	45	45

*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page **6**. For guarantee, see page **4**.

Ideal Magazine Boiler "15"
PERFORMANCE DATA (COKE) STEAM & WATER

Number of Boiler	Output in Equivalent Direct Radiation [Sq. Ft.] STEAM [240 B. t. u.]	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1150	1250	1350
	WATER [150 B. t. u.]	320	400	480	560	640	720	800	880	960	1040	1120	1200	1280	1360	1440	1520	1600	1680	1840	2000	2160
	Output in [1000's] B. t. u. per Hour	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240	252	276	300	324
15-S-04 15-W-04 Grate Area 1.82 Sq. Ft. Fuel Cap. 125 Lbs. Available Fuel 103 Lbs.	Time Available Fuel will last Hrs.*	21	17	14	12¼	10¾	9½	8½	7¾	...	...	...	...	...	...	...	...	...	...	...	...	...
	Overall Efficiency of Boiler %	75	75.5	76	76.5	77	77	77	77	...	...	...	...	...	...	...	...	...	...	...	...	...
	Stack Gas Temperature °F	285	310	330	355	380	400	425	445	...	...	...	...	...	...	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.7	3.4	4.0	4.6	5.3	5.9	6.6	7.2	...	...	...	...	...	...	...	...	...	...	...	...	...
	Draft Required Inches of Water	.02	.025	.03	.035	.045	.06	.08	.105	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chimney Size Inches	8x8	8x8	8x8	8x8	8x8	8x8	8x8	8x8	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chimney Height Feet	35	35	35	35	35	35	35	35	...	...	...	...	...	...	...	...	...	...	...	...	...
15-S-05 15-W-05 Grate Area 2.60 Sq. Ft. Fuel Cap. 173 Lbs. Available Fuel 141 Lbs.	Time Available Fuel will Last Hrs.*	...	...	19½	16¾	14¾	13	11¾	10¾	9¾	9	8½	7¾	...	...	...	...	...	...	...	...	...
	Overall Efficiency of Boiler %	...	...	76.5	77	77.5	77.5	78	78	78	77.5	77.5	77.5	...	...	...	...	...	...	...	...	...
	Stack Gas Temperature °F	...	...	300	320	340	355	375	395	415	430	450	470	...	...	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	2.8	3.2	3.7	4.1	4.5	5.0	5.4	5.9	6.4	6.9	...	...	...	...	...	...	...	...	...
	Draft Required Inches of Water	...	...	.025	.03	.035	.04	.05	.06	.07	.08	.09	.11	...	...	...	...	...	...	...	...	...
	Chimney Size Inches	...	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...	...	...	...	...
	Chimney Height Feet	...	...	35	35	35	35	35	35	35	35	35	35	...	...	...	...	...	...	...	...	...
15-S-06 15-W-06 Grate Area 3.38 Sq. Ft. Fuel Cap. 221 Lbs. Available Fuel 179 Lbs.	Time Available Fuel will last Hrs.*	...	...	...	...	18¾	16¾	15	13¾	12¾	11¾	11	10¼	9½	9	8½	8	...	...	...	...	...
	Overall Efficiency of Boiler %	...	...	...	...	77.5	78	78	78	78	78.5	78.5	78.5	78.5	78	78	78	...	...	...	...	...
	Stack Gas Temperature °F	...	...	...	...	315	330	345	360	375	390	405	420	435	450	465	480	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	...	...	2.8	3.1	3.5	3.8	4.2	4.5	4.9	5.2	5.6	5.9	6.3	6.6	...	...	...	...	...
	Draft Required Inches of Water	...	...	...	...	.03	.035	.04	.05	.055	.06	.065	.07	.08	.09	.10	.115	...	...	...	...	...
	Chimney Size Inches	...	...	...	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...
	Chimney Height Feet	...	...	...	...	40	40	40	40	40	40	40	40	40	40	40	40	...	...	...	...	...
15-S-07 15-W-07 Grate Area 4.16 Sq. Ft. Fuel Cap. 269 Lbs. Available Fuel 217 Lbs.	Time Available Fuel will Last Hrs.*	...	...	...	...	...	...	18½	16¾	15½	14¼	13¼	12¼	11½	10¾	10¼	9¾	9¼	8¾	8	...	...
	Overall Efficiency of Boiler %	...	...	...	...	...	...	78.5	78.5	78.5	79	79	79	79	79	79	79	79	78.5	78.5	...	...
	Stack Gas Temperature °F	...	...	...	...	...	...	320	335	345	360	375	385	400	415	425	440	455	465	490	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	...	...	...	...	2.8	3.1	3.4	3.7	4.0	4.2	4.5	4.8	5.1	5.3	5.6	5.9	6.5	...	...
	Draft Required Inches of Water	...	...	...	...	...	...	.04	.045	.05	.055	.065	.07	.075	.08	.085	.09	.10	.115	.125	...	...
	Chimney Size Inches	...	...	...	...	...	...	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	...	...
	Chimney Height Feet	...	...	...	...	...	...	40	40	40	40	40	40	40	40	40	40	40	40	40	...	...
15-S-08 15-W-08 Grate Area 4 94 Sq. Ft. Fuel Cap. 317 Lbs. Available Fuel 255 Lbs.	Time Available Fuel will last Hrs.*	...	...	...	...	...	...	...	...	18	16¾	15¾	14¾	13¾	13	12¼	11½	11	10½	9½	8¾	8
	Overall Efficiency of Boiler %	...	...	...	...	...	...	...	...	79	79	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79.5	79	79
	Stack Gas Temperature °F	...	...	...	...	...	...	...	...	325	340	350	360	375	385	395	405	415	430	450	475	500
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs	...	...	...	...	...	...	...	...	2.9	3.1	3.3	3.5	3.8	4.0	4.2	4.5	4.7	4.9	5.4	5.9	6.4
	Draft Required Inches of Water	...	...	...	...	...	...	...	...	.045	.05	.05	.055	.065	.07	.075	.08	.085	.09	.105	.115	.13
	Chimney Size Inches	...	...	...	...	...	...	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12
	Chimney Height Feet	...	...	...	...	...	...	...	...	45	45	45	45	45	45	45	45	45	45	45	45	45

*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

Ideal Magazine Boiler "25"
PERFORMANCE DATA (COKE) STEAM & WATER

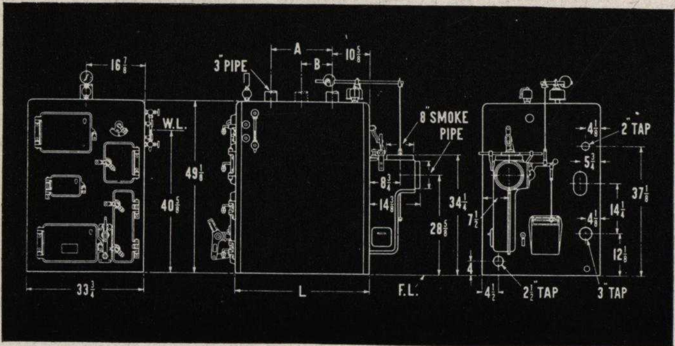
Number of Boiler	Output in Equivalent Direct Radiation [Sq.Ft.]																
	STEAM [240 B. t. u.]		300	450	600	750	900	1050	1200	1350	1500	1650	1800	1950	2100	2250	2400
	WATER [150 B. t. u.]		480	720	960	1200	1440	1680	1920	2160	2400	2640	2880	3120	3360	3600	3840
	Output in [1000's] B. t. u. per Hour		72	108	144	180	216	252	288	324	360	396	432	468	504	540	576
25-S-05	Time Available Fuel will last	Hrs.*	23	16	12	9¾	8¼	...	...	...	...	...	...	...	...	...	...
25-W-05	Overall Efficiency of Boiler	%	71	73	74	73	75	...	...	...	...	...	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	290	345	400	455	510	...	...	...	...	...	...	...	...	...	...
3.35 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		2.3	3.4	4.5	5.5	6.6	...	...	...	...	...	...	...	...	...	...
Fuel Cap. 220 Lbs.	Draft required	Inches of Water	.02	.03	.04	.05	.065	...	...	...	...	...	...	...	...	...	...
Available Fuel	Chimney Size	Inches	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...	...	...	...	...	...
180 Lbs.	Chimney Height	Feet	35	35	35	35	35	...	...	...	...	...	...	...	...	...	...
25-S-06	Time Available Fuel will last	Hrs.*	...	21	16¼	13¼	11	9¼	8¼	...	...	...	...	...	...	...	...
25-W-06	Overall Efficiency of Boiler	%	...	73.5	74.5	75.5	75.5	75.5	75	...	...	...	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	...	315	360	410	455	500	545	...	...	...	...	...	...	...	...
4.3 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	2.6	3.4	4.2	5.1	6.0	6.8	...	...	...	...	...	...	...	...
Fuel Cap. 285 Lbs.	Draft required	Inches of Water	...	.025	.035	.045	.055	.065	.085	...	...	...	...	...	...	...	...
Available Fuel	Chimney Size	Inches	...	8x12	8x12	8x12	8x12	8x12	8x12	...	...	...	...	...	...	...	...
240 Lbs.	Chimney Height	Feet	...	35	35	35	35	35	35	...	...	...	...	...	...	...	...
25-S-07	Time Available Fuel will last	Hrs.*	...	...	20	16¼	13¾	11¾	10¼	9	8¼	...	...	...	...	...	...
25-W-07	Overall Efficiency of Boiler	%	...	...	74.5	75.5	76	76	76	75.5	75.5	...	...	...	...	...	...
Grate Area	Stack Gas Temperature	°F	...	...	335	375	415	455	495	535	570	...	...	...	...	...	...
5.25 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	...	2.8	3.5	4.2	4.9	5.6	6.3	7.0	...	...	...	...	...	...
Fuel Cap. 350 Lbs.	Draft required	Inches of Water	...	...	.03	.04	.05	.06	.07	.085	.10	...	...	...	...	...	...
Available Fuel	Chimney Size	Inches	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...	...	...	...	...	...
300 Lbs.	Chimney Height	Feet	...	...	35	35	35	35	35	35	35	...	...	...	...	...	...
25-S-08	Time Available Fuel will last	Hrs.*	...	...	...	19¼	16¼	14	12¼	11	9¾	8¾	8	...	...	...	...
25-W-08	Overall Efficiency of Boiler	%	...	...	...	75.5	76	76.5	76.5	76.5	76	76	75.5	...	...	...	...
Grate Area	Stack Gas Temperature	°F	...	...	...	350	385	415	450	485	515	550	585	...	...	...	...
6.2 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	...	...	2.9	3.5	4.1	4.7	5.3	5.9	6.5	7.1	...	...	...	...
Fuel Cap. 420 Lbs.	Draft required	Inches of Water	...	...	...	.035	.045	.055	.065	.08	.09	.10	.11	...	...	...	...
Available Fuel	Chimney Size	Inches	...	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...	...	...	...
355 Lbs.	Chimney Height	Feet	...	...	...	40	40	40	40	40	40	40	40	...	...	...	...
25-S-09	Time Available Fuel will last	Hrs.*	...	...	...	...	18¾	16¼	14¼	12¾	11½	10½	9½	8¾	8	...	...
25-W-09	Overall Efficiency of Boiler	%	...	...	...	...	76.5	77	77	77	77.5	77.5	77	76.5	76	...	...
Grate Area	Stack Gas Temperature	°F	...	...	...	...	360	390	420	450	480	510	540	570	600	...	...
7.15 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	...	...	...	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.6	7.1	...	...
Fuel Cap. 490 Lbs.	Draft required	Inches of Water	...	...	...	...	.045	.05	.055	.065	.08	.09	.10	.11	.125	...	...
Available Fuel	Chimney Size	Inches	...	...	...	...	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	...	...
410 Lbs.	Chimney Height	Feet	...	...	...	...	40	40	40	40	40	40	40	40	40	...	...
25-S-10	Time Available Fuel will last	Hrs.*	...	...	...	...	...	18½	16½	14¾	13¼	12	11	10	9¼	8½	8
25-W-10	Overall Efficiency of Boiler	%	...	...	...	...	...	77	77.5	78	78	78	77.5	77.5	77	77	76.5
Grate Area	Stack Gas Temperature	°F	...	...	...	...	...	370	395	420	450	475	500	530	555	580	610
8.1 Sq. Ft.	Fuel Burned per Sq. Ft. of Grate per Hr. Lbs.		...	...	...	...	...	3.1	3.5	3.9	4.4	4.8	5.3	5.7	6.2	6.7	7.2
Fuel Cap. 555 Lbs.	Draft required	Inches of Water	...	...	...	...	...	.045	.05	.055	.07	.08	.09	.10	.11	.125	.14
Available Fuel	Chimney Size	Inches	...	...	...	...	...	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16
470 Lbs.	Chimney Height	Feet	...	...	...	...	...	45	45	45	45	45	45	45	45	45	45

*Based on fuel of **12,500** B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page **6**. For guarantee, see page **4**.

IDEAL MAGAZINE BOILER

Dimensions—Inlets—Outlets

"15" Boiler



Number of Boiler		Outlets No. and Size	Inlets No. and Size	Dimensions in Inches			Arrangement of Sections*
Steam	Water			A	B	L	
15-S-04	15-W-04	1-3″	1-3″ 1-2½″	..	..	27	F-C-CX-B
15-S-05	15-W-05	2-3″	1-3″ 1-2½″	12	..	33	F-CX-C-CX-B
15-S-06	15-W-06	2-3″	1-3″ 1-2½″	18	..	39	F-CX-C-C-CX-B
15-S-07	15-W-07	2-3″	1-3″ 1-2½″	18	..	45	F-C-CX-C-C-CX-B
15-S-08	15-W-08	3-3″	1-3″ 1-2½″	24	12	51	F-C-CX-C-CX-C-CX-B

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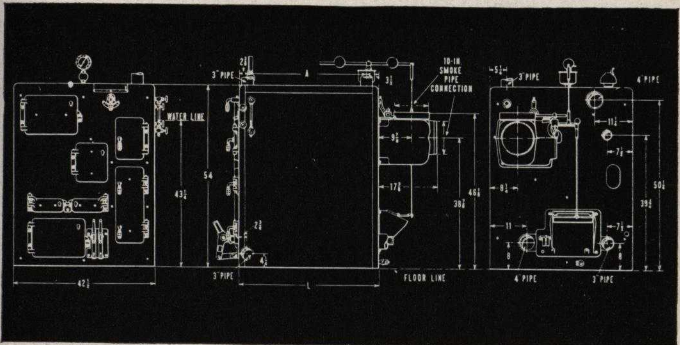
* F—7¼″ Front Section; C—6″ Center Section; CX—6″ Center Connecting Section; B—6¾″ Back Section.

IDEAL MAGAZINE BOILER

Dimensions—Inlets—Outlets

"25" Boiler



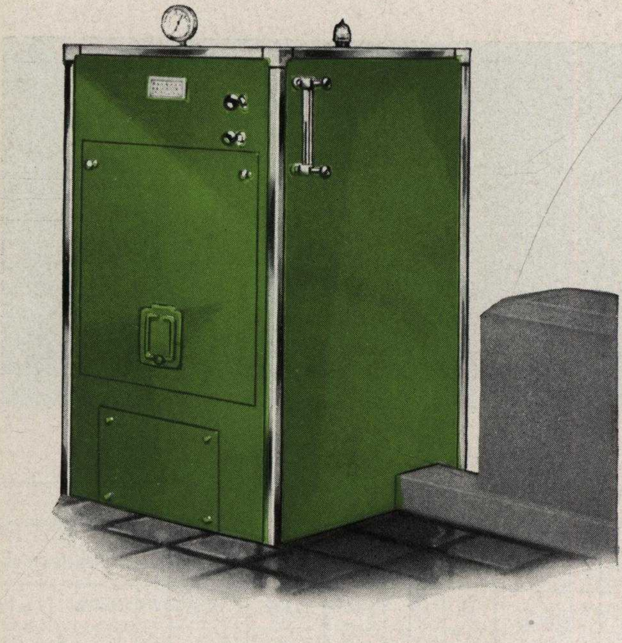
Number of Boiler		Outlets No. and Size	Inlets No. and Size	Dimensions in Ins.		Arrangement of Sections*
Steam	Water			A	L	
25-S-05	25-W-05	1-4″ 2-3″	1-4″ 2-3″	23⅜	29¼	F-C-C-C-B
25-S-06	25-W-06	1-4″ 2-3″	1-4″ 2-3″	29⅜	35¼	F-C-C-C-C-B
25-S-07	25-W-07	1-4″ 2-3″	1-4″ 2-3″	35⅜	41¼	F-C-C-C-C-C-B
25-S-08	25-W-08	1-4″ 2-3″	1-4″ 2-3″	41⅜	47¼	F-C-C-C-C-C-C-B
25-S-09	25-W-09	1-4″ 2-3″	1-4″ 2-3″	47⅜	53¼	F-C-C-C-C-C-C-C-B
25-S-10	25-W-10	1-4″ 2-3″	1-4″ 2-3″	53⅜	59¼	F-C-C-C-C-C-C-C-C-B

* F—5¼″ Front Section; C—6″ Center Section; B—5¼″ Back Section.

IDEAL BOILER NO. 21

De Luxe Model

FOR AUTOMATIC COAL FIRING



Tapped for External Water Heater—See Note Page 118

For Explanation of Boiler Selection........................See Pages 4–6
For Guarantee..See Page 4
For Performance Data and Outputs.....................See Page 65
For Data on Dimensions and Assemblage of Sections......See Pages 66–67
For Data on Sundries and Trimmings....................See Page 168

IDEAL BOILER NO. 21

DE LUXE MODEL

For Automatic Coal Firing

PERFORMANCE DATA. STEAM AND WATER

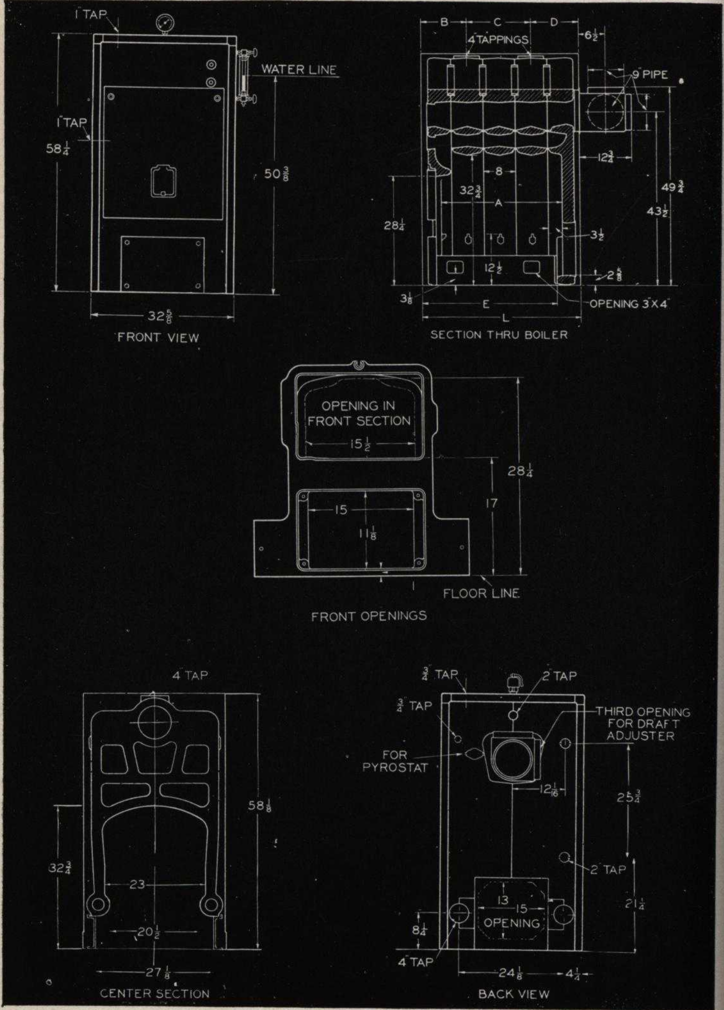
Size	Actual Installed Radiation Boiler Will Handle		Min. Coal Burner Capacity Lbs. Coal per Hr.	Boiler Heating Surface	Firebox Dimensions		Distance Floor to Crown Sheet	Height of Base	Chimney	
	Steam	Water			Width	Length			Size Inches	Height Feet
C-421	510	815	20	42.3	23	22¼	32¾	7½	8 x 8	30
C-521	660	1055	26	54.7	23	30¼	32¾	7½	8 x 8	30
C-621	810	1300	32	67.1	23	38¼	32¾	7½	8 x 12	35
C-721	960	1535	38	79.5	23	46¼	32¾	7½	8 x 12	40

See Page 6 for statement on guarantee and selection.

IDEAL BOILER NO. 21

De Luxe Model

Dimensions—Outlets—Inlets



IDEAL BOILER NO. 21

De Luxe Model

Dimensions—Outlets—Inlets

No. of Boiler		Number and Size of Outlets	Number and Size of Inlets	Length "L" Inches	Dimensions in Inches				
Steam	Water				A	B	C	D	E
S-0421	W-0421	2-4″	2-4″	32⅜	22¼	12⅜	8	12	26⅝
S-0521	W-0521	2-4″	2-4″	40⅜	30¼	12⅜	16	12	34⅝
S-0621	W-0621	2-4″	2-4″	48⅜	38¼	20⅜	16	12	42⅝
S-0721	W-0721	2-4″	2-4″	56⅜	46¼	20⅜	16	20	50⅝

Assemblage of Sections

Number of Boiler		Assemblages
Steam	Water	
S-0412	W-0412	F-CX-CX-B
S-0512	W-0512	F-CX-C-CX-B
S-0612	W-0612	F-C-CX-C-CX-B
S-0712	W-0712	F-C-CX-C-CX-C-B

F—6″ Front Section C—8″ Center Section B—6¾″ Back Section CX—8″ Center Connecting Section

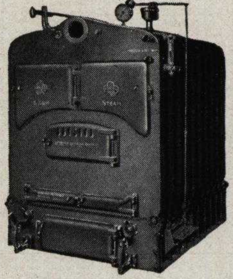
Biltin Taco Heater of 40, 100 or 160-gal. tank capacity providing for Taco-Abbott system for summer and winter hot water supply, can be furnished with these boilers.

IDEAL WATER TUBE BOILERS

ANTHRACITE

23-Inch Boiler

29-Inch Boiler



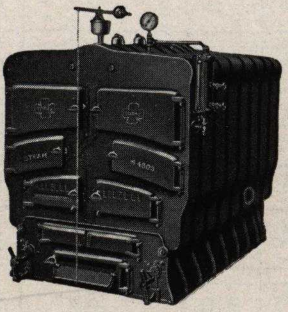
36-Inch Boiler

For External Water Heater Tappings—See Note Page 118

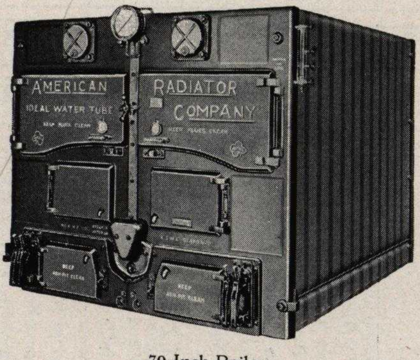
For Explanation on Boiler Selection	See Pages	4–6
For Guarantee	See Page	4
For Performance Data and Outputs	See Pages	70–78
For Data on Dimensions, and Assemblage of Sections	See Pages	86–88
For Ashpit Dimensions	See Page	91
For Arrangement of Grate Bars	See Page	92
For Data on Sundries and Trimmings	See Page	168

IDEAL WATER TUBE BOILERS

ANTHRACITE



48-Inch Boiler



79-Inch Boiler

For External Water Heater Tappings—See Note Page 118

For Explanation on Boiler Selection	See Pages	4–6
For Guarantee	See Page	4
For Performance Data and Outputs	See Pages	79–85
For Data on Dimensions, and Assemblage of Sections	See Pages	89–90
For Ashpit Dimensions	See Page	91
For Arrangement of Grate Bars	See Page	92
For Data on Sundries and Trimmings	See Page	168

23-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Steam (240 B.t.u.) Water (150 B.t.u.)	150 240	225 360	300 480	375 600	450 720	525 840	600 960	675 1080	750 1200	825 1320	900 1440	975 1560	1050 1680
	Output in (1000's) B.t.u. per Hr.	36	54	72	90	108	126	144	162	180	198	216	234	252
S-2305	Time Available Fuel Will Last, Hrs.*	32.3	21.4	15.9	12.6	10.3	8.7	7.5	....	....	....	....	....	....
W-2305	Overall Efficiency of Boiler, %	75.6	75.1	74.4	73.5	72.5	71.5	70.3	....	....	....	....	....	....
Grate Area	Stack Gas Temperature, °F	300	355	410	460	510	560	610	....	....	....	....	....	....
2.72 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	1.4	2.1	2.8	3.6	4.4	5.2	6.0	....	....	....	....	....	....
164 Lbs.	Draft Required, Ins. of Water	0.01	0.02	0.03	0.04	0.05	0.06	0.07	....	....	....	....	....	....
Available Fuel	Chimney Size, Ins.	8x12	8x12	8x12	8x12	8x12	8x12	8x12	....	....	....	....	....	....
123 Lbs.	Chimney Height, Ft.	30	30	30	30	30	30	30	....	....	....	....	....	....
S-2306	Time Available Fuel Will Last, Hrs.*	....	26.6	19.8	15.7	12.9	11.0	9.5	8.3	7.3	....	....	....	....
W-2306	Overall Efficiency of Boiler, %	....	75.5	75.0	74.5	73.5	72.8	72.0	70.8	69.5	....	....	....	....
Grate Area	Stack Gas Temperature, °F	....	330	375	420	465	510	550	590	630	....	....	....	....
3.36 Sq. Ft. Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	1.7	2.3	2.9	3.5	4.1	4.8	5.5	6.2	....	....	....	....
203 Lbs.	Draft Required, Ins. of Water	....	0.02	0.02	0.03	0.04	0.04	0.05	0.06	0.08	....	....	....	....
Available Fuel	Chimney Size, Ins.	....	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	....	....	....	....
152 Lbs.	Chimney Height, Ft.	....	35	35	35	35	35	35	35	35	....	....	....	....

23-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)													
	Steam (240 B.t.u.)	150	225	300	375	450	525	600	675	750	825	900	975	1050
	Water (150 B.t.u.)	240	360	480	600	720	840	960	1080	1200	1320	1440	1560	1680
	Output in (1000's) B.t.u. per Hr.	36	54	72	90	108	126	144	162	180	198	216	234	252
S-2307 W-2307	Time Available Fuel Will Last, Hrs.*	....	....	23.8	19.0	15.7	13.4	11.6	10.2	9.1	8.2	7.4	....	....
Grate Area	Overall Efficiency of Boiler, %	....	....	75.5	75.0	74.5	74.0	73.5	72.9	72.1	71.1	70.5	....	....
4.00 Sq. Ft.	Stack Gas Temperature, °F.	....	....	345	385	420	460	495	530	565	600	630	....	....
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	....	1.9	2.4	2.9	3.4	3.9	4.5	5.0	5.5	6.1	....	....
242 Lbs.	Draft Required, Ins. of Water	....	....	0.02	0.03	0.03	0.04	0.04	0.05	0.06	0.07	0.08	....	....
Available Fuel	Chimney Size, Ins.	....	....	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	....	....
182 Lbs.	Chimney Height, Ft.	....	....	35	35	35	35	35	35	35	35	35	....	....
S-2308 W-2308	Time Available Fuel Will Last, Hrs.*	....	....	27.8	22.1	18.3	15.6	13.5	12.0	10.7	9.6	8.7	7.9	7.3
Grate Area	Overall Efficiency of Boiler, %	....	....	76.0	75.5	75.0	74.5	74.0	73.5	73.0	72.0	71.5	70.5	69.5
4.64 Sq. Ft.	Stack Gas Temperature. °F.	....	....	325	360	390	425	460	490	520	550	580	610	635
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	....	1.6	2.1	2.5	2.9	3.4	3.8	4.2	4.7	5.2	5.7	6.2
281 Lbs.	Draft Required, Ins. of Water	....	....	0.01	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.07	0.07	0.08
Available Fuel	Chimney Size, Ins.	....	....	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12
211 Lbs.	Chimney Height, Ft.	....	....	35	35	35	35	35	35	35	35	35	35	35

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*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

23-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)														
	Steam (240 B.t.u.)	375	450	525	600	675	750	825	900	975	1050	1125	1200	1275	1350
	Water (150 B.t.u.)	600	720	840	960	1080	1200	1320	1440	1560	1680	1800	1920	2040	2160
	Output in (1000's) B.t.u. per Hr.	90	108	126	144	162	180	198	216	234	252	270	288	306	324
S-2309 **W-2309**	Time Available Fuel Will Last, Hrs.*	25.4	21.0	17.9	15.5	13.7	12.3	11.0	10.1	9.2	8.4	7.8	7.2	....	....
Grate Area	Overall Efficiency of Boiler, %	76.0	75.5	75.3	74.5	74.0	73.5	72.8	72.5	71.5	70.8	70.0	69.5	....	....
5.28 Sq. Ft.	Stack Gas Temperature, °F	340	370	395	425	450	480	505	535	565	585	610	635	....	....
Fuel Cap. 320 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs	1.8	2.2	2.5	2.9	3.3	3.7	4.1	4.5	4.9	5.4	5.8	6.3	....	....
Available Fuel	Draft Required, Ins. of Water	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.08	0.08	....	....
240 Lbs.	Chimney Size, Ins	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	8x12	....	....
	Chimney Height, Ft	40	40	40	40	40	40	40	40	40	40	40	40	....	....
S-2310 **W-2310**	Time Available Fuel Will Last, Hrs.*	28.6	23.7	20.2	17.6	15.5	13.8	12.5	11.4	10.4	9.6	8.9	8.2	7.7	7.2
Grate Area	Overall Efficiency of Boiler, %	76.5	76.0	75.7	75.3	74.5	74.0	73.5	73.1	72.5	72.0	71.5	70.5	70.1	69.5
5.92 Sq. Ft.	Stack Gas Temperature, °F	325	350	375	405	425	450	475	500	525	550	570	595	615	640
Fuel Cap. 359 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs	1.6	1.9	2.3	2.6	2.9	3.3	3.6	4.0	4.4	4.7	5.1	5.5	5.9	6.3
Available Fuel	Draft Required, Ins. of Water	0.01	0.02	0.02	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.07	0.08	0.09
269 Lbs.	Chimney Size, Ins	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12	12x12
	Chimney Height, Ft	40	40	40	40	40	40	40	40	40	40	40	40	40	40

29-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Steam (240 B.t.u.) Water (150 B.t.u.)	400 640	600 960	800 1280	1000 1600	1200 1920	1400 2240	1600 2560	1800 2880	2000 3200	2200 3520	2400 3840	2600 4160	2800 4480	3000 4800
	Output in (1000's) B.t.u. per Hr.	96	144	192	240	288	336	384	432	480	528	576	624	672	720
S-2905 **W-2905**	Time Available Fuel Will Last, Hrs.*	22.9	15.3	11.4	9.0	7.3	6.1	5.2	....	....	....	....	....	....	....
Grate Area 4.84 Sq. Ft.	Overall Efficiency of Boiler, %	67.0	67.0	66.5	65.5	64.0	62.2	60.5	....	....	....	....	....	....	....
	Stack Gas Temperature, °F.	340	410	480	550	620	690	760	....	....	....	....	....	....	....
Fuel Cap 350 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.4	3.6	4.8	6.0	7.4	8.9	10.5	....	....	....	....	....	....	....
Available Fuel 263 Lbs.	Draft Required, Ins. of Water	0.03	0.05	0.06	0.08	0.10	0.12	0.14	....	....	....	....	....	....	....
	Chimney Size, Ins.	12x16	12x16	12x16	12x16	12x16	12x16	12x16	....	....	....	....	....	....	....
	Chimney Height, Ft.	35	35	35	35	35	35	35	....	....	....	....	....	....	....
S-2906 **W-2906**	Time Available Fuel Will Last, Hrs.*	....	19.4	14.5	11.4	9.4	7.9	6.8	5.9	5.1	....	....	....	....	....
Grate Area 6.05 Sq. Ft.	Overall Efficiency of Boiler, %	....	68.0	67.8	67.0	66.0	65.0	63.5	61.8	60.0	....	....	....	....	....
	Stack Gas Temperature, °F.	....	380	450	510	580	640	700	770	840	....	....	....	....	....
Fuel Cap. 437 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	2.8	3.7	4.8	5.8	6.9	8.0	9.2	10.6	....	....	....	....	....
Available Fuel 328 Lbs.	Draft Required, Ins. of Water	....	0.04	0.05	0.06	0.08	0.10	0.12	0.14	0.16	....	....	....	....	....
	Chimney Size, Ins.	....	12x16	12x16	12x16	12x16	12x16	12x16	12x16	12x16	....	....	....	....	....
	Chimney Height, Ft.	....	40	40	40	40	40	40	40	40	....	....	....	....	....
S-2907 **W-2907**	Time Available Fuel Will Last, Hrs.*	....	....	17.6	14.0	11.5	9.7	8.4	7.3	6.4	5.7	5.0	....	....	....
Grate Area 7.26 Sq. Ft.	Overall Efficiency of Boiler, %	....	....	69.0	68.5	67.5	66.6	65.5	64.0	62.5	61.0	59.0	....	....	....
	Stack Gas Temperature, °F.	....	....	420	480	540	590	650	700	760	810	880	....	....	....
Fuel Cap. 523 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	....	....	3.1	3.9	4.7	5.6	6.4	7.4	8.4	9.5	10.8	....	....	....
Available Fuel 392 Lbs.	Draft Required, Ins. of Water	....	....	0.05	0.06	0.07	0.09	0.10	0.12	0.14	0.18	0.18	....	....	....
	Chimney Size, Ins.	....	....	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	....	....	....
	Chimney Height, Ft.	....	....	40	40	40	40	40	40	40	40	40	....	....	....

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

29-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)															
	Steam (240 B.t.u.)	800	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200	3400	3600
	Water (150 B.t.u.)	1280	1600	1920	2240	2560	2880	3200	3520	3840	4160	4480	4800	5120	5440	5760
	Output in (1000's) B.t.u. per Hr.	192	240	288	336	384	432	480	528	576	624	672	720	768	816	864
S-2908 **W-2908** Grate Area 8.47 Sq. Ft. Fuel Cap. 611 Lbs. Available Fuel 458 Lbs.	Time Available Fuel Will Last, Hrs.*	20.8	16.6	13.7	11.6	10.1	8.8	7.8	6.9	6.2	5.6	5.0	...	...	...	...
	Overall Efficiency of Boiler, %	69.8	69.5	69.0	68.2	67.5	66.2	65.0	63.8	62.0	60.5	59.0	...	...	...	...
	Stack Gas Temperature, °F	390	440	490	540	590	640	690	740	790	840	890	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	2.6	3.3	3.9	4.7	5.4	6.2	6.9	7.8	8.7	9.7	10.8	...	...	...	...
	Draft Required, Ins. of Water	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.13	0.15	0.17	0.20	...	...	...	...
	Chimney Size, Ins.	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	16x16	...	...	...	...
	Chimney Height, Ft.	45	45	45	45	45	45	45	45	45	45	45	...	...	...	...
S-2909 **W-2909** Grate Area 9.68 Sq. Ft. Fuel Cap. 699 Lbs. Available Fuel 524 Lbs.	Time Available Fuel Will Last, Hrs.*	...	19.5	16.1	13.8	12.0	10.5	9.3	8.3	7.5	6.8	6.1	5.6	5.0	...	...
	Overall Efficiency of Boiler, %	...	71.5	71.0	70.8	70.0	69.2	68.0	67.0	66.0	64.5	63.0	61.0	59.0	...	...
	Stack Gas Temperature, °F	...	410	450	500	540	580	620	670	710	750	800	840	880	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	2.8	3.4	3.9	4.5	5.2	5.8	6.5	7.2	8.0	8.9	9.7	10.8	...	...
	Draft Required, Ins. of Water	...	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.13	0.16	0.18	0.20	...	...
	Chimney Size, Ins.	...	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	...	...
	Chimney Height, Ft.	...	50	50	50	50	50	50	50	50	50	50	50	50	...	...
S-2910 **W-2910** Grate Area 10.89 Sq. Ft. Fuel Cap. 787 Lbs. Available Fuel 590 Lbs.	Time Available Fuel Will Last, Hrs.*	...	22.7	19.0	16.2	14.0	12.4	11.0	9.8	8.8	8.0	7.2	6.6	6.0	5.5	5.0
	Overall Efficiency of Boiler, %	...	74.0	74.0	73.6	73.0	72.5	71.5	70.5	69.0	67.5	66.0	64.0	62.5	60.5	58.5
	Stack Gas Temperature, °F	...	370	410	440	480	520	560	590	630	660	700	740	770	800	840
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	2.4	2.9	3.3	3.9	4.4	4.9	5.5	6.2	6.8	7.5	8.2	9.0	9.9	10.8
	Draft Required, Ins. of Water	...	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.12	0.13	0.15	0.18	0.21
	Chimney Size, Ins.	...	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20
	Chimney Height, Ft.	...	55	55	55	55	55	55	55	55	55	55	55	55	55	55

36-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)															
	Steam (240 B.t.u.)	875	1200	1525	1850	2175	2500	2825	3150	3475	3800	4125	4450	4775	5100	5425
	Water (150 B.t.u.)	1400	1920	2440	2960	3480	4000	4520	5040	5560	6080	6600	7120	7640	8160	8680
	Output in (1000's) B.t.u. per Hr.	210	288	366	444	522	600	678	756	834	912	990	1068	1146	1224	1302
S-3606 **W-3606** Grate Area 7.50 Sq. Ft. Fuel Cap. 684 Lbs. Available Fuel 513 Lbs.	Time Available Fuel Will Last, Hrs.*	22.6	16.2	12.5	10.1	8.4	7.2	6.2	5.4	...	...	...	...	...	...	...
	Overall Efficiency of Boiler, %	74.0	72.9	71.5	70.0	68.5	67.5	65.5	64.0	...	...	...	...	...	...	...
	Stack Gas Temperature, °F.	300	410	510	600	680	750	815	865	...	...	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	3.0	4.2	5.5	6.8	8.1	9.5	11.0	12.7	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	.03	.04	.06	.08	.10	.13	.16	.19	...	...	...	...	...	...	...
	Chimney Size, Ins	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	...	...	...	...	...	...	...
	Chimney Height, Ft	45	45	45	45	45	45	45	45	...	...	...	...	...	...	...
S-3607 **W-3607** Grate Area 9.00 Sq. Ft. Fuel Cap. 828 Lbs. Available Fuel 621 Lbs.	Time Available Fuel Will Last, Hrs.*	...	19.8	15.4	12.5	10.4	8.9	7.8	6.8	6.1	5.4	...	...	...	...	...
	Overall Efficiency of Boiler, %	...	73.5	72.5	71.5	70.1	69.0	68.0	66.5	65.0	63.5	...	...	...	...	...
	Stack Gas Temperature, °F.	...	350	430	515	590	660	725	780	830	870	...	...	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	3.5	4.5	5.5	6.6	7.8	8.9	10.1	11.3	12.8	...	...	...	...	...
	Draft Required, Ins. of Water	...	.03	.04	.06	.07	.10	.12	.14	.17	.20	...	...	...	...	...
	Chimney Size, Ins	...	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	16x20	...	...	...	...	...
	Chimney Height, Ft	...	50	50	50	50	50	50	50	50	50	...	...	...	...	...
S-3608 **W-3608** Grate Area 10.50 Sq. Ft. Fuel Cap. 972 Lbs. Available Fuel 729 Lbs.	Time Available Fuel Will Last, Hrs.*	...	23.4	18.3	14.9	12.5	10.7	9.4	8.3	7.4	6.7	6.0	5.4	...	...	...
	Overall Efficiency of Boiler, %	...	74.0	73.5	72.5	71.5	70.5	69.5	68.5	67.5	66.5	65.0	63.5	...	...	...
	Stack Gas Temperature, °F.	...	310	380	455	530	595	650	710	760	810	840	875	...	...	...
	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	3.0	3.8	4.7	5.6	6.5	7.4	8.4	9.4	10.4	11.6	12.9	...	...	...
	Draft Required, Ins. of Water	...	.03	.04	.05	.06	.08	.10	.12	.14	.16	.19	.21	...	...	...
	Chimney Size, Ins	...	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...	...
	Chimney Height, Ft	...	50	50	50	50	50	50	50	50	50	50	50	...	...	...

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page **6**. For guarantee, see page **4**.

36-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																				
	Steam (240 B.t.u.)	1525	1850	2175	2500	2825	3150	3475	3800	4125	4450	4775	5100	5425	5750	6075	6400	6725	7050	7375	7700
	Water (150 B.t.u.)	2440	2960	3480	4000	4520	5040	5560	6080	6600	7120	7640	8160	8680	9200	9720	10240	10760	11280	11800	12320
	Output in (1000's) B.t.u. per Hr.	366	444	522	600	678	756	834	912	990	1068	1146	1224	1302	1380	1458	1536	1614	1692	1770	1848
S-3609 **W-3609**	Time Available Fuel Will Last, Hrs.*	21.1	17.2	14.5	12.5	10.9	9.6	8.6	7.8	7.0	6.4	5.9	5.4	...	...	...	...	...	...	...	...
Grate Area 12.00 Sq. Ft.	Overall Efficiency of Boiler, %	73.8	73.0	72.5	71.5	70.5	69.5	68.5	67.5	66.5	65.5	64.0	63.0	...	...	...	...	...	...	...	...
	Stack Gas Temperature, °F	340	405	465	525	580	635	690	735	780	820	850	880	...	...	...	...	...	...	...	...
Fuel Cap. 1116 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	3.3	4.1	4.8	5.6	6.4	7.3	8.1	8.9	10.0	10.9	11.8	12.9	...	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	.03	.04	.05	.06	.08	.10	.12	.14	.16	.18	.20	.22	...	...	...	...	...	...	...	...
Available Fuel 837 Lbs.	Chimney Size, Ins.	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...	...	...	...	...	...	...
	Chimney Height, Ft.	55	55	55	55	55	55	55	55	55	55	55	55	...	...	...	...	...	...	...	...
S-3610 **W-3610**	Time Available Fuel Will Last, Hrs.*	...	19.6	16.5	14.3	12.4	11.1	9.9	9.0	8.1	7.4	6.8	6.3	5.8	5.4	...	...	...	...	...	...
Grate Area 13.50 Sq. Ft.	Overall Efficiency of Boiler, %	...	73.5	73.0	72.5	71.5	71.0	70.0	69.1	68.0	67.0	66.0	65.0	63.5	62.5	...	...	...	...	...	...
	Stack Gas Temperature, °F	...	375	430	485	540	595	640	690	730	770	800	835	860	885	...	...	...	...	...	...
Fuel Cap. 1260 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	3.6	4.2	4.9	5.6	6.3	7.1	7.8	8.6	9.5	10.3	11.1	12.1	13.0	...	...	...	...	...	...
	Draft Required, Ins. of Water	...	.03	.04	.06	.07	.09	.10	.12	.14	.16	.18	.20	.22	.24	...	...	...	...	...	...
Available Fuel 945 Lbs.	Chimney Size, Ins.	...	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...	...	...	...	...
	Chimney Height, Ft.	...	55	55	55	55	55	55	55	55	55	55	55	55	55	...	...	...	...	...	..
S-3611 **W-3611**	Time Available Fuel Will Last, Hrs.*	...	21.9	18.5	16.0	14.0	12.5	11.2	10.2	9.3	8.5	7.8	7.2	6.6	6.2	5.7	5.4	...	...	...	...
Grate Area 15.00 Sq. Ft.	Overall Efficiency of Boiler, %	...	74.0	73.5	73.0	72.3	71.5	71.0	70.5	69.5	68.5	67.5	66.5	65.5	64.5	63.5	62.5	...	...	...	...
	Stack Gas Temperature, °F	...	340	390	440	490	535	580	625	670	710	750	780	820	845	870	890	...	...	...	...
Fuel Cap. 1404 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	3.2	3.8	4.4	5.0	5.6	6.3	6.9	7.6	8.3	9.0	9.8	10.6	11.3	12.3	13.0	...	...	...	...
	Draft Required, Ins. of Water	...	.03	.04	.05	.06	.07	.09	.10	.12	.14	.15	.17	.19	.21	.23	.25	...	...	...	...
Available Fuel	Chimney Size, Ins.	...	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	20x20	...	...	...	...
	Chimney Height, Ft.	...	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	...	...	...	...

36-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																				
	Steam (240 B.t.u.)........	1525	1850	2175	2500	2825	3150	3475	3800	4125	4450	4775	5100	5425	5750	6075	6400	6725	7050	7375	7700
	Water (150 B.t.u.)........	2440	2960	3480	4000	4520	5040	5560	6080	6600	7120	7640	8160	8680	9200	9720	10240	10760	11280	11800	12320
	Output in (1000's) B.t.u. per Hr.	366	444	522	600	678	756	834	912	990	1068	1146	1224	1302	1380	1458	1536	1614	1692	1770	1848
S-3612 **W-3612**	Time Available Fuel Will Last, Hrs.*............	...	...	20.4	17.6	15.5	13.8	12.4	11.3	10.3	9.4	8.7	8.1	7.5	7.0	6.5	6.1	5.7	5.4	...	...
Grate Area 16.50 Sq. Ft.	Overall Efficiency of Boiler, %....................	...	...	73.5	73.0	72.5	72.0	71.5	71.0	70.5	69.5	68.5	68.0	67.5	66.5	65.5	64.5	63.5	62.5	...	...
	Stack Gas Temperature, °F.	...	...	360	405	450	495	540	580	620	660	700	735	770	800	830	860	880	895	...	...
Fuel Cap. 1548 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	...	...	3.5	4.0	4.5	5.1	5.7	6.2	6.8	7.5	8.1	8.7	9.4	10.1	10.8	11.5	12.3	13.0	...	...
AvailableFuel 1161 Lbs.	Draft Required, Ins. of Water	...	...	.03	.04	.05	.06	.07	.09	.10	.12	.13	.15	.17	.18	.20	.22	.24	.25	...	...
	Chimney Size, Ins.........	...	...	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	...	...
	Chimney Height, Ft......	...	...	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	...	...
S-3613 **W-3613**	Time Available Fuel Will Last, Hrs.*............	...	...	...	19.4	17.0	15.2	13.7	12.4	11.4	10.5	9.7	8.9	8.3	7.8	7.3	6.9	6.4	6.0	5.7	5.4
Grate Area 18.00 Sq. Ft.	Overall Efficiency of Boiler, %....................	...	...	...	73.5	72.7	72.5	72.0	71.5	71.0	70.5	69.7	69.0	68.5	67.5	67.0	66.5	65.5	64.5	64.0	63.0
	Stack Gas Temperature, °F.	...	...	...	380	420	465	510	550	585	625	660	700	730	770	800	825	850	870	890	900
Fuel Cap. 1692 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	...	...	...	3.6	4.1	4.6	5.1	5.7	6.2	6.7	7.3	7.9	8.5	9.0	9.7	10.2	11.0	11.7	12.4	13.0
AvailableFuel 1269 Lbs.	Draft Required, Ins. of Water	...	...	...	.04	.05	.06	.07	.08	.09	.10	.12	.13	.15	.17	.18	.20	.22	.23	.25	.27
	Chimney Size, Ins.........	...	...	...	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24
	Chimney Height, Ft......	...	...	...	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

36-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																					
	Steam (240 B.t.u.)	**2500**	**2825**	**3150**	**3475**	**3800**	**4125**	**4450**	**4775**	**5100**	**5425**	**5750**	**6075**	**6400**	**6725**	**7050**	**7375**	**7700**	**8025**	**8350**	**8675**	**9000**
	Water (150 B.t.u.)	**4000**	**4520**	**5040**	**5560**	**6080**	**6600**	**7120**	**7640**	**8160**	**8680**	**9200**	**9720**	**10240**	**10760**	**11280**	**11800**	**12320**	**12840**	**13360**	**13880**	**14400**
	Output in (1000's) B.t.u. per Hr.	**600**	**678**	**756**	**834**	**912**	**990**	**1068**	**1146**	**1224**	**1302**	**1380**	**1458**	**1536**	**1614**	**1692**	**1770**	**1848**	**1926**	**2004**	**2082**	**2160**
S-3614 **W-3614**	Time Available Fuel Will Last, Hrs.*	21.1	18.7	16.7	15.1	13.6	12.4	11.5	10.6	9.8	9.2	8.6	8.1	7.6	7.1	6.7	6.3	6.0	5.7	5.4	...	...
Grate Area	Overall Efficiency of Boiler, %	73.7	73.5	73.3	73.0	72.3	71.7	71.5	70.7	70.0	69.5	68.7	68.3	67.5	66.7	66.0	65.3	64.5	63.5	63.0	...	...
19.50 Sq. Ft.	Stack Gas Temperature, °F.	355	400	435	480	515	550	585	620	660	690	725	750	785	810	835	860	880	890	905	...	...
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	3.3	3.8	4.2	4.7	5.2	5.7	6.1	6.7	7.2	7.7	8.2	8.7	9.3	9.9	10.5	11.2	11.8	12.4	13.1	...	...
1836 Lbs.	Draft Required, Ins. of Water	.03	.04	.05	.06	.07	.08	.09	.11	.12	.14	.15	.17	.18	.20	.21	.23	.25	.27	.28	...	...
Available Fuel	Chimney Size, Ins.	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	20x24	...	...
1377 Lbs.	Chimney Height, Ft.	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	...	...
S-3615 **W-3615**	Time Available Fuel Will Last, Hrs.*	...	...	18.0	16.3	14.9	13.6	12.5	11.6	10.7	10.0	9.3	8.8	8.3	7.8	7.3	7.0	6.6	6.3	5.9	5.6	5.4
Grate Area	Overall Efficiency of Boiler, %	...	...	73.5	73.3	73.0	72.5	72.0	71.5	70.7	70.3	69.5	69.0	68.5	67.7	67.0	66.5	65.5	65.0	64 0	63.3	62.5
21.00 Sq. Ft.	Stack Gas Temperature, °F.	...	...	410	440	480	510	550	580	615	650	680	710	740	770	795	820	845	865	885	900	910
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	...	3.9	4.3	4.7	5.2	5.7	6.1	6.6	7.1	7.6	8.0	8.5	9.1	9.7	10.1	10.7	11.2	12.0	12.6	13.1
1980 Lbs.	Draft Required, Ins. of Water	...	...	.04	.05	.06	.07	.08	.10	.11	.12	.14	.15	.17	.18	.20	.21	.22	.24	.26	.28	.30
Available Fuel	Chimney Size, Ins.	...	...	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24
1485 Lbs.	Chimney Height, Ft.	...	...	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75

48-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																					
	Steam (240 B.t.u.)........	2750	3375	4000	4625	5250	5875	6500	7125	7750	8375	9000	9625	10250	10875	11500	12125	12750	13375	14000	14625	15250
	Water (150 B.t.u.)........	4400	5400	6400	7400	8400	9400	10400	11400	12400	13400	14400	15400	16400	17400	18400	19400	20400	21400	22400	23400	24400
	Output in (1000's) B.t.u. per Hr.	660	810	960	1110	1260	1410	1560	1710	1860	2010	2160	2310	2460	2610	2760	2910	3060	3210	3360	3510	3660
S-4807 W-4807	Time Available Fuel Will Last, Hrs.*............	17.7	14.2	11.9	10.2	8.9	7.8	7.0	6.3	5.7	5.2	4.7	...	...	...	...	...	...	...	...	...	...
Grate Area 21.60 Sq. Ft.	Overall Efficiency of Boiler, %....................	70.5	69.5	68.7	68.0	67.5	66.5	65.5	64.5	63.5	62.5	61.5	...	...	...	...	...	...	...	...	...	...
	Stack Gas Temperature, °F.	370	420	470	510	560	610	660	710	750	800	850	...	...	...	...	...	...	...	...	...	...
Fuel Cap. 1770 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	3.5	4.3	5.2	6.0	6.9	7.9	8.8	9.8	10.8	11.8	13.1	...	...	...	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	0.05	0.08	0.10	0.12	0.16	0.20	0.25	0.28	0.32	0.40	0.44	...	...	...	...	...	...	...	...	...	...
Available Fuel 1328 Lbs.	Chimney Size, Ins.........	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	...	...	...	...	...	...	...	...	...	...
	Chimney Height, Ft.......	70	70	70	70	70	70	70	70	70	70	70	...	...	...	...	...	...	...	...	...	...
S-4808 W-4808	Time Available Fuel Will Last, Hrs.*............	...	16.8	14.1	12.1	10.6	9.4	8.3	7.5	6.8	6.2	5.7	5.3	4.9	...	...	...	...	...	...	...	...
Grate Area 25.20 Sq. Ft.	Overall Efficiency of Boiler, %....................	...	70.5	70.0	69.5	69.0	68.5	67.0	66.5	65.5	64.5	63.5	63.0	62.0	...	...	...	...	...	...	...	...
	Stack Gas Temperature, °F.	...	380	430	460	510	550	590	630	670	710	760	800	840	...	...	...	...	...	...	...	...
Fuel Cap. 2065 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	...	3.7	4.4	5.1	5.8	6.5	7.4	8.2	9.0	9.9	10.8	11.6	12.5	...	...	...	...	...	...	...	...
	Draft Required, Ins. of Water	...	0.05	0.08	0.10	0.12	0.13	0.16	0.20	0.25	0.30	0.35	0.40	0.45	...	...	...	...	...	...	...	...
Available Fuel 1549 Lbs.	Chimney Size, Ins.........	...	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	24x24	...	...	...	...	...	...	...	...
	Chimney Height, Ft.......	...	75	75	75	75	75	75	75	75	75	75	75	75	...	...	...	...	...	...	...	...

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4

48-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																				
	Steam (240 B.t.u.)	3375	4000	4625	5250	5875	6500	7125	7750	8375	9000	9625	10250	10875	11500	12125	12750	13375	14000	14625	15250
	Water (150 B.t.u.)	5400	6400	7400	8400	9400	10400	11400	12400	13400	14400	15400	16400	17400	18400	19400	20400	21400	22400	23400	24400
	Output in (1000's) B.t.u. per Hr.	810	960	1110	1260	1410	1560	1710	1860	2010	2160	2310	2460	2610	2760	2910	3060	3210	3360	3510	3660
S-4809 **W-4809**	Time Available Fuel Will Last, Hrs.*...........	16.9	14.2	12.2	10.7	9.4	8 4	7.6	6.9	6.4	5.8	5.4	5.0	4.6	4.3	...	...	...	...	...	...
Grate Area	Overall Efficiency of Boiler, %................	71.0	70.5	70.0	69.5	68.5	68.0	67.5	66.5	66.0	65.0	64.0	63.5	62.5	61.5	...	...	...	...	...	...
25.20 Sq. Ft.	Stack Gas Temperature, °F.	360	400	430	470	510	540	580	610	650	680	720	760	800	830	...	...	...	...	...	...
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.....	3 6	4.3	5.0	5.7	6.5	7.3	8.1	8.9	9.6	10.6	11.4	12.3	13.4	14.3	...	...	...	...	...	...
2065 Lbs.	DraftRequired,Ins.ofWater	0.03	0.05	0.09	0.10	0.14	0.15	0.18	0.21	0.25	0.29	0.32	0.38	0.42	0.48	...	...	...	...	...	...
AvailableFuel	Chimney Size, Ins.......	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...	...	...
1549 Lbs.	Chimney Height, Ft.......	80	80	80	80	80	80	80	80	80	80	80	80	80	80	...	...	...	...	...	...
S-4810 **W-4810**	Time Available Fuel Will Last, Hrs.*...........	...	16.4	14.1	12.3	10.9	9.8	8.9	8.0	7.4	6.8	6.3	5.9	5.4	5.1	4.8	4.5	...	...	...	...
Grate Area	Overall Efficiency of Boiler, %................	...	71.0	70.5	70.0	69.5	69.0	68.5	67.5	67.0	66.5	65.5	65.0	64.1	63.5	63.0	62.0	...	...	...	...
28.80 Sq. Ft.	Stack Gas Temperature, °F.	...	370	400	440	470	500	530	560	590	630	660	690	730	760	790	820	...	...	...	...
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.....	...	3.7	4.4	5.0	5.6	6.3	6.9	7.7	8.3	9.0	9.8	10.4	11.4	12.0	12.8	13.7	...	...	...	...
2360 Lbs.	DraftRequired,Ins.ofWater	...	0.05	0.07	0 10	0 11	0.13	0.15	0.18	0.20	0.25	0.27	0.30	0.35	0.40	0.45	0.50	...	...	...	...
AvailableFuel	Chimney Size, Ins.......	...	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...
1770 Lbs.	Chimney Height, Ft.......	...	85	85	85	85	85	85	85	85	85	85	85	85	85	85	85	.	...	...	...

48-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																				
	Steam (240 B.t.u.)........	3375	4000	4625	5250	5875	6500	7125	7750	8375	9000	9625	10250	10875	11500	12125	12750	13375	14000	14625	15250
	Water (150 B.t.u.)........	5400	6400	7400	8400	9400	10400	11400	12400	13400	14400	15400	16400	17400	18400	19400	20400	21400	22400	23400	24400
	Output in (1000's) B.t.u. per Hr.	810	960	1110	1260	1410	1560	1710	1860	2010	2160	2310	2460	2610	2760	2910	3060	3210	3360	3510	3660
S-4811 **W-4811**	Time Available Fuel Will Last, Hrs.*...........	...	16.5	14.1	12.4	11.0	9.9	8.9	8.2	7.5	6.9	6.4	6.0	5.6	5.2	4.9	4.6	4.3	4.1	...	...
Grate Area	Overall Efficiency of Boiler. %.................	...	71.5	71.0	70.5	70.0	69.5	69.0	68.5	68.0	67.5	66.6	66.3	65.5	64.5	64.0	63.5	62.5	62.0	...	...
28.80 Sq. Ft.	Stack Gas Temperature, °F.	...	350	380	410	440	470	490	520	550	580	610	640	670	700	730	760	790	810	...	...
Fuel Cap. 2360 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	...	3.7	4.4	5.0	5.6	6.2	6.9	7.5	8.2	8.9	9.6	10.2	11.0	11.8	12.5	13.4	14.3	15.0	...	...
	DraftRequired, Ins. of Water	...	0.04	0.05	0.08	0.10	0.12	0.16	0.18	0.20	0.22	0.25	0.28	0.32	0.35	0.40	0.42	0.46	0.50	...	...
AvailableFuel	Chimney Size, Ins........	...	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	...	...
1770 Lbs.	Chimney Height, Ft......	...	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95		...
S-4812 **W-4812**	Time Available Fuel Will Last, Hrs.*...........	...	...	14.2	12.5	11.1	10.0	9.1	8.3	7.6	7.0	6.5	6.1	5.7	5.3	5.0	4.7	4.4	4.2	4.0	3.7
Grate Area	Overall Efficiency of Boiler, %.................	...	...	71.5	71.1	70.8	70.5	70.0	69.5	69.0	68.5	67.7	67.3	66.6	66.1	65.5	64.7	64.0	63.5	63.0	62.0
28.80 Sq. Ft.	Stack Gas Temperature, °F.	...	...	360	390	410	440	470	490	520	550	570	600	630	650	680	700	730	760	780	810
Fuel Cap. 2360 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs......	...	...	4.3	4.9	5.5	6.2	6.8	7.4	8.1	8.8	9.5	10.1	10.8	11.6	12.3	13.1	14.0	14.6	15.4	16.6
	DraftRequired, Ins. of Water	...	...	0.05	0.07	0.09	0.12	0.13	0.15	0.18	0.20	0.22	0.25	0.28	0.30	0.35	0.37	0.41	0.45	0.48	0.52
AvailableFuel	Chimney Size, Ins........	...	...	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28
1770 Lbs.	Chimney Height, Ft......	...	...	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

*Based on fuel of 12,500 B.t.u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

48-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																					
	Steam (240 B.t.u.).	5250	5875	6500	7125	7750	8375	9000	9625	10250	10875	11500	12125	12750	13375	14000	14625	15250	15875	16500	17125	17750
	Water (150 B.t.u.).	8400	9400	10400	11400	12400	13400	14400	15400	16400	17400	18400	19400	20400	21400	22400	23400	24400	25400	26400	27400	28400
	Output in (1000's) B.t.u. per Hr.	1260	1410	1560	1710	1860	2010	2160	2310	2460	2610	2760	2910	3060	3210	3360	3510	3660	3810	3960	4110	4260
S-4813 **W-4813**	Time Available Fuel Will Last, Hrs.*.	14.2	12.6	11.3	10.3	9.4	8.6	8.0	7.4	6.9	6.5	6.1	5.7	5.4	5.1	4.8	4.6	4.3	4.1	3.9	...	...
	Overall Efficiency of Boiler, %....	71.5	71.2	70.8	70.5	70.0	69.5	69.0	68.7	68.5	67.6	67.3	66.6	66.3	65.5	64.8	64.3	63.5	63.0	62.5	...	...
Grate Area 32.40 Sq. Ft.	Stack Gas Temperature, °F.........	370	390	420	440	460	490	510	540	560	590	610	640	660	680	710	730	760	780	810	...	...
Fuel Cap. 2655 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs........	4.3	4.9	5.4	6.0	6.5	7.2	7.7	8.3	8.9	9.5	10.1	10.8	11.4	12.0	12.8	13.4	14.3	15.0	15.8	...	...
Available Fuel 1991 Lbs.	Draft Required, Ins. of Water.......	0.06	0.08	0.10	0.11	0.12	0.13	0.16	0.18	0.21	0.23	0.25	0.29	0.32	0.35	0.39	0.42	0.46	0.50	0.55	...	...
	Chimney Size, Ins.	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	...	...
	Chimney Height, Ft.............	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	...	...
S-4814 **W-4814**	Time Available Fuel Will Last, Hrs.*.	14.2	12.7	11.4	10.4	9.5	8.7	8.1	7.5	7.0	6.6	6.2	5.8	5.5	5.2	4.9	4.7	4.4	4.2	4.0	3.8	3.7
	Overall Efficiency of Boiler, %....	71.7	71.6	71.5	71.0	70.7	70.5	70.1	69.7	69.5	69.0	68.5	68.0	67.5	67.0	66.5	65.8	65.0	64.5	64.0	63.5	63.0
Grate Area 32.40 Sq. Ft.	Stack Gas Temperature, °F.........	350	370	400	420	440	460	490	510	530	560	580	600	620	650	670	690	710	740	760	780	800
Fuel Cap. 2655 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs........	4.3	4.8	5.4	5.9	6.5	7.1	7.6	8.2	8.8	9.3	9.9	10.6	11.2	11.8	12.5	13.1	14.0	14.6	15.4	16.2	16.6
Available Fuel 1991 Lbs.	Draft Required, Ins. of Water.......	0.05	0.06	0.08	0.09	0.10	0.11	0.13	0.15	0.18	0.20	0.21	0.23	0.26	0.29	0.32	0.35	0.40	0.43	0.48	0.51	0.57
	Chimney Size, Ins.	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32	28x32
	Chimney Height, Ft.............	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110

79-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																					
	Steam (240 B.t.u.)	4000	5000	6000	7000	8000	9000	10000	11000	12000	13000	14000	15000	16000	17000	18000	19000	20000	21000	22000	23000	24000
	Water (150 B.t.u.)	6400	8000	9600	11200	12800	14400	16000	17600	19200	20800	22400	24000	25600	27200	28800	30400	32000	33600	35200	36800	38400
	Output in (1000's) B.t.u. per Hr.	960	1200	1440	1680	1920	2160	2400	2640	2880	3120	3360	3600	3840	4080	4320	4560	4800	5040	5280	5520	5760
S-7909 **W-7909**	Time Available Fuel Will Last, Hrs.*	17.8	14.4	12.0	10.2	8.8	7.7	6.8	6.1	5.4	4.9	4.4		...	...	...	...	...	...	...	...	...
Grate Area 21.9 Sq. Ft.	Overall Efficiency of Boiler, %	73.3	73.9	73.9	73.4	72.7	71.5	70.2	68.6	66.9	65.1	63.2	...	...	...	...	...	...	...	...	...	...
	Stack Gas Temperature, °F.	370	410	460	500	540	590	630	670	720	760	800	...	...	...	...	...	...	...	...	...	...
Fuel Cap. 2484 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	4.8	5.9	7.1	8.3	9.5	11.0	12.5	14.1	15.7	17.5	19.4	...	...	...	...	...	...	...	...	...	
	Draft Required, Ins. of Water.	0.16	0.20	0.25	0.30	0.35	0.40	0.46	0.51	0.58	0.64	0.73	...	...	...	...	...	...	...	...	...	
Available Fuel 1863 Lbs.	Chimney Size, Ins.	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...	...	...	...	...	...	
	Chimney Height, Ft.	85	85	85	85	85	85	85	85	85	85	85	...	...	...	...	...	...	...	...	...	.
S-7910 **W-7910**	Time Available Fuel Will Last, Hrs.*	..	16.0	13.3	11.3	9.9	8.6	7.7	6.9	6.2	5.6	5.1	4.6	...	...	...	...	...	...	...	..	
Grate Area 24.9 Sq. Ft.	Overall Efficiency of Boiler, %	..	74.1	74.1	73.7	73.3	72.2	71.3	70.0	68.8	67.3	65.8	64.2	...	...	...	...	...	...	...	...	
	Stack Gas Temperature, °F.	.	390	430	470	510	550	590	630	670	700	740	780	...	...	...	...	...	...	...	...	
Fuel Cap. 2760 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	5.2	6.2	7.3	8.4	9.6	10.8	12.1	13.4	14.8	16.3	18.0	...	...	...	...	...	...	...	...	.
	Draft Required, Ins. of Water.	...	0.20	0.24	0.29	0.33	0.38	0.43	0.49	0.54	0.60	0.66	0.73	...	...	...	...	...	...	...	...	
Available Fuel 2070 Lbs.	Chimney Size, Ins.	...	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...	...	...	...	...	..
	Chimney Height, Ft.	...	90	90	90	90	90	90	90	90	90	90	90	...	...	...	...	...	...	...	...	..
S-7911 **W-7911**	Time Available Fuel Will Last, Hrs.*	...	17.6	14.7	12.5	11.0	9.6	8.6	7.7	6.9	6.3	5.7	5.2	4.8	4.4	...	...	...	...	...	...	...
Grate Area 28.0 Sq. Ft.	Overall Efficiency of Boiler, %	..	74.3	74.3	74.0	73.8	72.9	72.1	71.2	70.1	69.0	67.8	66.3	65.0	63.5	...	...	...	...	...	...	..
	Stack Gas Temperature, °F.	...	380	410	450	480	520	550	590	630	660	700	730	760	800	...	...	...	...	...	...	...
Fuel Cap. 3036 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	...	4.6	5.5	6.5	7.4	8.4	9.5	10.6	11.7	12.9	14.1	15.5	16.9	18.3	...	...	...	...	...	...	...
	Draft Required, Ins. of Water.	...	0.19	0.23	0.28	0.32	0.36	0.41	0.46	0.51	0.56	0.62	0.68	0.74	0.82	...	...	...	...	...	...	...
Available Fuel 2277 Lbs.	Chimney Size, Ins.	...	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	24x28	...	...	...	...	...	...	...
	Chimney Height, Ft.	...	95	95	95	95	95	95	95	95	95	95	95	95	95	...	...	...	...	...	...	...

*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

79-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.) Steam (240 B.t.u.)	6000	7000	8000	9000	10000	11000	12000	13000	14000	15000	16000	17000	18000	19000	20000	21000	22000	23000	24000	25000	26000
	Water (150 B.t.u.)	9600	11200	12800	14400	16000	17600	19200	20800	22400	24000	25600	27200	28800	30400	32000	33600	35200	36800	38400	40000	41600
	Output in (1000's) B.t.u. per Hr.	1440	1680	1920	2160	2400	2640	2880	3120	3360	3600	3840	4080	4320	4560	4800	5040	5280	5520	5760	6000	6240
S-7912 **W-7912**	Time Available Fuel Will Last, Hrs.*	16.1	13.7	12.0	10.6	9.4	8.5	7.7	7.0	6.4	5.9	5.4	5.0	4.6	...	...	...	...	...	...	...	
Grate Area 31.1 Sq. Ft.	Overall Efficiency of Boiler, %	74.5	74.3	74.1	73.4	72.8	72.2	71.3	70.3	69.3	68.2	67.1	65.9	64.6	...	...	...	...	...	...	...	
	Stack Gas Temperature, °F.	390	430	460	490	530	560	590	630	660	690	720	760	790	...	...	...	...	...	...	...	...
Fuel Cap. 3312 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	5.0	5.8	6.7	7.5	8.4	9.4	10.4	11.4	12.5	13.6	14.7	15.9	17.2								
	Draft Required, Ins. of Water.	0.22	0.26	0.30	0.34	0.39	0.43	0.48	0.53	0.58	0.63	0.69	0.75	0.82	...	...	...	...	...	...	...	...
Available Fuel 2484 Lbs.	Chimney Size, Ins.	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	28x28	...	...	...	...	...	...	...	...
	Chimney Height, Ft.	100	100	100	100	100	100	100	100	100	100	100	100	100	...	...	...	...	...	...	...	...
S-7913 **W-7913**	Time Available Fuel Will Last, Hrs.*	17.5	14.9	13.0	11.5	10.3	9.3	8.4	7.7	7.0	6.4	6.0	5.6	5.2	4.8	...	...	...	...	...	...	...
Grate Area 34.2 Sq. Ft.	Overall Efficiency of Boiler, %	74.7	74.5	74.3	73.9	73.3	72.8	72.0	71.2	70.3	69.3	68.4	67.4	66.3	65.2	...	...	...	...	...	...	...
	Stack Gas Temperature, °F.	380	420	440	470	510	540	570	600	630	660	690	720	750	780	...	...	...	...	...	...	...
Fuel Cap. 3588 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	4.5	5.3	6.0	6.8	7.6	8.5	9.3	10.2	11.2	12.1	13.1	14.1	15.2	16.3	...	...	...	...	...	...	...
	Draft Required, Ins. of Water.	0.20	0.24	0.28	0.32	0.37	0.41	0.45	0.50	0.54	0.59	0.64	0.70	0.76	0.83	...	...	...	...	...	...	...
Available Fuel 2691 Lbs.	Chimney Size, Ins.	30x30	30x30	30x30	30x30	30x30	30x30	30x30	30x30	30x30	30x30	30x30	30x30	30x30	30x30	...	...	...	...	...	...	...
	Chimney Height, Ft.	105	105	105	105	105	105	105	105	105	105	105	105	105	105	...	...	...	...	...	...	...
S-7914 **W-7914**	Time Available Fuel Will Last, Hrs.*	18.8	16.1	14.0	12.4	11.1	10.0	9.1	8.3	7.7	7.1	6.5	6.1	5.7	5.3	...	...	...	...	...	...	...
Grate Area 37.3 Sq. Ft.	Overall Efficiency of Boiler, %	74.8	74.7	74.4	74.1	73.6	73.1	72.4	71.7	71.1	70.1	69.3	68.5	67.6	66.7	...	...	...	...	...	...	...
	Stack Gas Temperature, °F.	370	400	430	460	490	520	550	580	610	640	660	690	720	750	...	...	...	...	...	...	...
Fuel Cap. 3864 Lbs.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.	4.1	4.8	5.5	6.3	7.0	7.7	8.5	9.3	10.1	11.0	11.9	12.8	13.7	14.6	...	...	...	...	...	...	...
	Draft Required, Ins. of Water.	0.19	0.23	0.27	0.31	0.35	0.39	0.43	0.47	0.51	0.56	0.61	0.66	0.71	0.78	...	...	...	...	...	...	...
Available Fuel 2898 Lbs.	Chimney Size, Ins.	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	...	...	...	...	...	...	...
	Chimney Height, Ft.	110	110	110	110	110	110	110	110	110	110	110	110	110	110	...	...	...	...	...	...	...

79-INCH IDEAL WATER TUBE BOILER—Performance Data—Steam and Water

Number of Boiler	Output in Equivalent Direct Radiation (Sq. Ft.)																					
	Steam (240 B.t.u.)...........	6000	7000	8000	9000	10000	11000	12000	13000	14000	15000	16000	17000	18000	19000	20000	21000	22000	23000	24000	25000	26000
	Water (150 B.t.u.)..........	9600	11200	12800	14400	16000	17600	19200	20800	22400	24000	25600	27200	28800	30400	32000	33600	35200	36800	38400	40000	41600
	Output in (1000's) B.t.u. per Hr.	1440	1680	1920	2160	2400	2640	2880	3120	3360	3600	3840	4080	4320	4560	4800	5040	5280	5520	5760	6000	6240
S-7915 **W-7915**	Time Available Fuel Will Last, Hrs.*..................	..	...	12.6	11.1	10.0	9.0	8.2	7.5	6.9	6.4	5.9	5.5	5.1	4.8	4.5	4.2	4.0	3.7	...	...	...
Grate Area	Overall Efficiency of Boiler, %	...	...	74.6	74.3	73.9	73.4	72.8	72.2	71.6	70.7	70.0	69.2	68.4	67.6	66.6	65.8	64.9	63.9	...	...	...
34.2 Sq. Ft.	Stack Gas Temperature, °F...	...	...	420	450	480	510	540	570	600	630	650	680	710	740	770	800	830	860	...	...	...
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.........	....	..	6.0	6.8	7.6	8.4	9.2	10.1	11.0	11.9	12.8	13.8	14.8	15.8	16.9	17.9	19.0	20.2	...	...	..
3450 Lbs.	Draft Required, Ins. of Water.	...	...	0.26	0.29	0.33	0.37	0.41	0.45	0.49	0.53	0.58	0.62	0.67	0.73	0.78	0.84	0.90	0.98	...	...	...
Available Fuel	Chimney Size, Ins...........	...	...	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	30x36	...	...	..
2588 Lbs.	Chimney Height, Ft.........	..	...	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	115	...	...	...
S-7916 **W-7916**	Time Available Fuel Will Last, Hrs.*..................	...	...	12.6	11.2	10.0	9.0	8.2	7.5	6.9	6.4	6.0	5.6	5.2	4.9	4.6	4.3	4.1	3.8	3.6	...	..
Grate Area	Overall Efficiency of Boiler, %	...	..	74.7	74.5	74.2	73.7	73.2	72.6	72.1	71.3	70.6	69.9	69.2	68.4	67.6	66.8	65.9	65.1	64.2	...	..
34.2 Sq. Ft.	Stack Gas Temperature, °F...	...	...	410	440	460	490	520	550	570	600	630	660	680	710	740	760	790	820	840	...	...
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.........	...	..	6.0	6.8	7.6	8.4	9.2	10.1	10.9	11.8	12.7	13.6	14.6	15.6	16.6	17.6	18.7	19.8	21.0	...	..
3450 Lbs.	Draft Required, Ins. of Water.	..	.	0.24	0.28	0.31	0.35	0.39	0.42	0.46	0.51	0.55	0.59	0.64	0.69	0.74	0.80	0.86	0.92	1.00	...	...
Available Fuel	Chimney Size, Ins...........	..	...	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	...	..
2588 Lbs.	Chimney Height, Ft.........	..	...	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	...	..
S-7917 **W-7917**	Time Available Fuel Will Last, Hrs.*..................	..	..	13.6	12.1	10.8	9.8	8.9	8.2	7.6	7.0	6.5	6.1	5.7	5.3	5.0	4.7	4.4	4.2	4.0	3.8	3.6
Grate Area	Overall Efficiency of Boiler, %	..	.	74.8	74.7	74.4	74.0	73.7	73.1	72.6	72.0	71.3	70.6	70.0	69.2	68.6	67.8	67.0	66.3	65.4	64.6	63.9
37.3 Sq. Ft.	Stack Gas Temperature, °F...	...	..	400	420	450	470	500	520	540	570	600	620	650	670	700	720	750	770	800	820	850
Fuel Cap.	Fuel Burned per Sq. Ft. of Grate per Hr., Lbs.........	..	...	5.5	6.2	6.9	7.6	8.4	9.2	9.9	10.7	11.5	12.3	13.2	14.1	15.0	15.9	16.9	17.9	18.9	19.9	20.9
3726 Lbs.	Draft Required, Ins. of Water.	...	...	0.23	0.27	0.30	0.33	0.37	0.40	0.44	0.48	0.52	0.56	0.61	0.65	0.70	0.76	0.81	0.87	0.93	1.00	1.08
Available Fuel	Chimney Size, Ins...........	...	..	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36	36x36
2795 Lbs.	Chimney Height, Ft.........	..	...	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125

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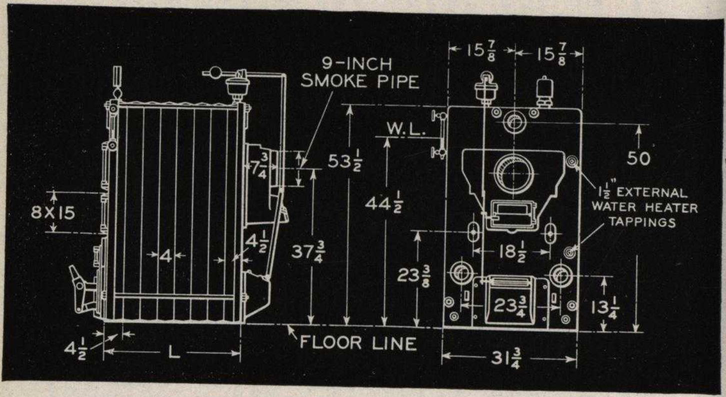
*Based on fuel of 12,500 B. t. u. per lb. For economical operation, add piping tax to Direct Radiation Load (Equivalent Direct Radiation); then select boiler from figures enclosed by heavy lines. For further explanation on boiler selection, see page 6. For guarantee, see page 4.

23-Inch Ideal Water Tube Boiler—Steam or Water

ANTHRACITE

Dimensions—Outlets—Inlets



Tapped 1½″ *for External Water Heater*. (*See note on page* 118).

Number of Boiler		"L" Length Inches	Outlets Number and Size	Inlets Number and Size
Steam	Water			
S-2305	W-2305	21	2-4″	2-4″
S-2306	W-2306	25	2-4″	2-4″
S-2307	W-2307	29	2-4″	2-4″
S-2308	W-2308	33	2-4″	2-4″
S-2309	W-2309	37	2-4″	2-4″
S-2310	W-2310	41	2-4″	2-4″

ASSEMBLAGE OF SECTIONS

Number of Boiler		Assemblage
Steam	Water	
S-2305	W-2305	A-2C-U-H
S-2306	W-2306	A-3C-U-H
S-2307	W-2307	A-4C-U-H
S-2308	W-2308	A-5C-U-H
S-2309	W-2309	A-6C-U-H
S-2310	W-2310	A-7C-U-H

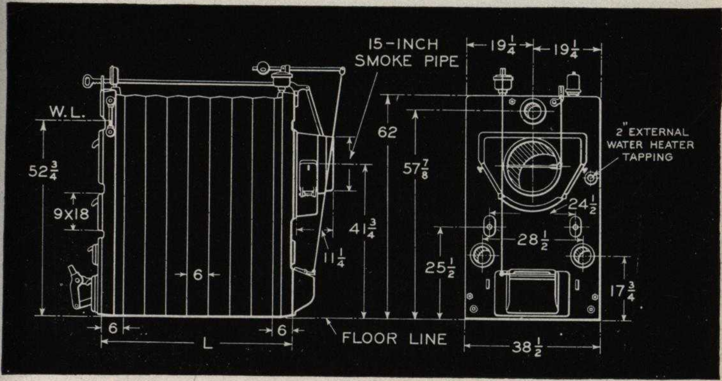
A = 4½″ Front Section.
C = 4″ Center Section.

U = 4″ Rear Center Uptake Section.
H = 4½″ Back Section.

29-Inch Ideal Water Tube Boiler—Steam or Water

ANTHRACITE

Dimensions—Outlets—Inlets



Tapped 2" for External Water Heater. (*See note on page* 118).

Number of Boiler		"L" Length Inches	Outlets Number and Size	Inlets Number and Size
Steam	Water			
S-2905	W-2905	30	2-5"	2-5"
S-2906	W-2906	36	2-5"	2-5"
S-2907	W-2907	42	2-5"	2-5"
S-2908	W-2908	48	2-5"	2-5"
S-2909	W-2909	54	2-5"	2-5"
S-2910	W-2910	60	2-5"	2-5"

ASSEMBLAGE OF SECTIONS

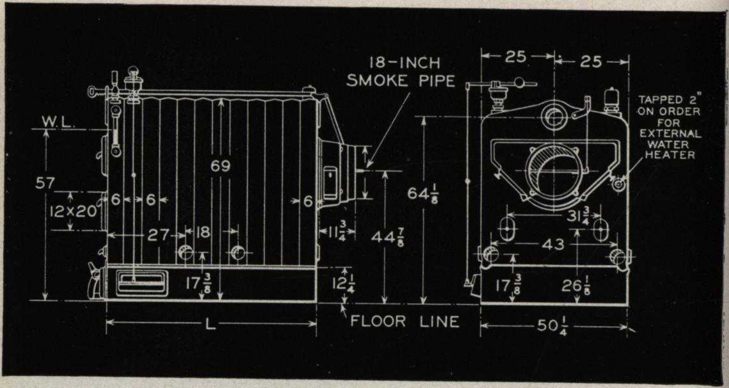
Number of Boiler		Assemblage
Steam	Water	
S-2905	W-2905	A-2C-U-H
S-2906	W-2906	A-3C-U-H
S-2907	W-2907	A-4C-U-H
S-2908	W-2908	A-5C-U-H
S-2909	W-2909	A-6C-U-H
S-2910	W-2910	A-7C-U-H

A = 6" Front Section.
C = 6" Center Section.
U = 6" Rear Center (Uptake).
H = 6" Back Section.

36-Inch Ideal Water Tube Boiler—Steam and Water

ANTHRACITE

Dimensons—Outlets—Inlets



Tapped 2″ on Order For External Water Heater. (*See note on page* 118).

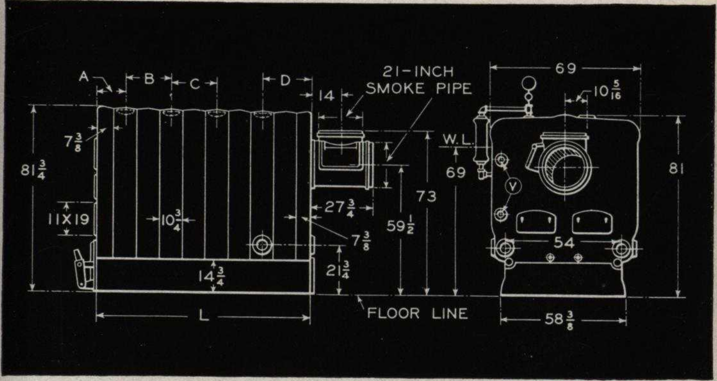
Number of Boiler		"L" Length Inches	Steam		Water	
Steam	Water		Outlets Number and Size	Inlets Number and Size	Outlets Number and Size	Inlets Number and Size
S-3606	W-3606	36	2-6″	2-4″	2-6″	2-4″
S-3607	W-3607	42	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3608	W-3608	48	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3609	W-3609	54	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3610	W-3610	60	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3611	W-3611	66	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3612	W-3612	72	2-6″	2-4″	2-6″	4-3½″ & 2-4″
S-3613	W-3613	78	2-6″	2-4″	2-6″	4-3½″ & 2-4″
S-3614	W-3614	84	2-6″	2-4″	2-6″	4-3½″ & 2-4″
S-3615	W-3615	90	2-6″	2-4″	2-6″	4-3½″ & 2-4″

Number of Boiler	Assemblage Steam	Number of Boiler	Assemblage Water
S-3606	A-CT-2C-U-H	W-3606	A-CT-2C-U-H
S-3607	A-CT-3C-U-H	W-3607	A-CT-2C-D-U-H
S-3608	A-CT-4C-U-H	W-3608	A-CT-2C-D-C-U-H
S-3609	A-CT-5C-U-H	W-3609	A-CT-2C-D-2C-U-H
S-3610	A-CT-6C-U-H	W-3610	A-CT-2C-D-3C-U-H
S-3611	A-CT-7C-U-H	W-3611	A-CT-2C-D-4C-U-H
S-3612	A-B-8C-U-H	W-3612	A-B-2C-D-2C-D-2C-U-H
S-3613	A-B-8C-2U-H	W-3613	A-B-2C-D-2C-D-2C-2U-H
S-3614	A-B-9C-2U-H	W-3614	A-B-2C-D-2C-D-3C-2U-H
S-3615	A-B-10C-2U-H	W-3615	A-B-2C-D-2C-D-4C-2U-H

A = 6″ Front Section.
B = 6″ Front Center Section Tapped for Regulator.
C = 6″ Center Section
CT = 6″ Center Section Tapped for Regulator.

D = 6″ Center Connecting Section.
U = 6″ Rear Center Uptake Section.
H = 6″ Back Section.

48-Inch Ideal Water Boiler—Steam or Water
ANTHRACITE
Dimensions—Outlets—Inlets



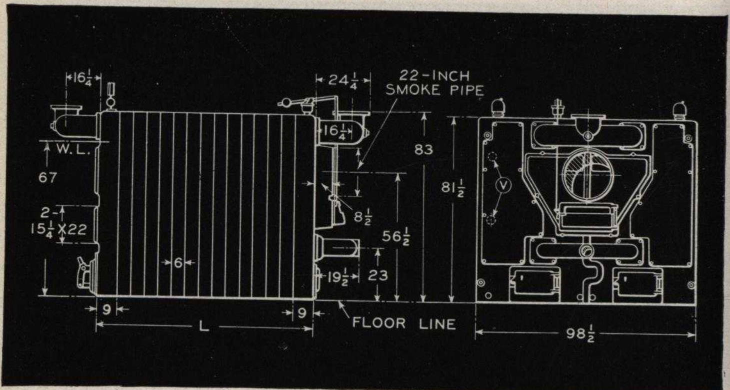
Tapped 3" on Order For External Water Heater at Points V. (See note on page 118).

Number of Boiler		"L" Lgth. Ins.	Steam		Water		Boiler Outlets			
Steam	Water		Outlets Number and Size	Inlets Number and Size	Outlets Number and Size	Inlets Number and Size	A	B	C	D
S-4807	W-4807	68½	3-6"	4-4"	3-6"	4-6"	12¾"	21½"	.....	12¾"
S-4808	W-4808	79¼	3-6"	4-4"	3-6"	4-6"	12¾"	32¼"	.....	12¾"
S-4809	W-4809	90	3-6"	4-4"	3-6"	4-6"	12¾"	32¼"	.....	23½"
S-4810	W-4810	100¾	3-6"	4-4"	3-6"	4-6"	12¾"	32¼"	.....	23½"
S-4811	W-4811	111½	4-6"	4-4"	4-6"	4-6"	12¾"	21½"	21½"	23½"
S-4812	W-4812	122¼	4-6"	4-4"	4-6"	4-6"	12¾"	21½"	32¼"	23½"
S-4813	W-4813	133	4-6"	4-4"	4-6"	4-6"	12¾"	32¼"	32¼"	23½"
S-4814	W-4814	143¾	4-6"	4-4"	4-6"	4-6"	12¾"	32¼"	32¼"	23½"

Number of Boiler		Assemblage	
Steam	Water	Left Half	Right Half
S-4807	W-4807	A-CX-F-NX-F-GX-1	A-K-F-F-F-MX-1
S-4808	W-4808	A-CX-F-F-NX-F-GX-1	A-K-F-F-F-F-MX-1
S-4809	W-4809	A-CX-F-F-NX-F-GX-U-1	A-K-F-F-F-F-MX-U-1
S-4810	W-4810	A-CX-F-F-NX-F-F-GX-U-1	A-K-F-F-F-F-F-MX-U-1
S-4811	W-4811	A-CX-F-NX-F-NX-F-F-GX-U-1	A-K-F-F-F-F-F-F-MX-U-1
S-4812	W-4812	A-CX-F-NX-F-F-NX-F-U-GX-U-1	A-K-F-F-F-F-F-F-U-MX-U-1
S-4813	W-4813	A-CX-F-F-NX-F-F-NX-F-U-GX-U-1	A-K-F-F-F-F-F-F-F-U-MX-U-1
S-4814	W-4814	A-CX-F-F-NX-F-F-NX-F-F-U-GX-U-1	A-K-F-F-F-F-F-F-F-F-U-MX-U-1

A = 7⅜" Front Section.
K = 10¾" Closed Front Flue Section.
CX = 10¾" Closed Front Flue Connecting (Supply Only).
F = 10¾" Closed Center Section
NX = 10¾" Closed Center Connecting (Supply Only).
U = 10¾" Open Rear Center Section.
MX = 10¾" Open Rear Center Connecting (Return Only).
GX = 10¾" Open Rear Center Connecting (Supply and Return).
1 = 7⅜" Open Back Section.

79-Inch Ideal Water Tube Boiler—Steam or Water
ANTHRACITE
Dimensions—Outlets—Inlets



Tapped 3″ on Order For External Water Heater at Points V. (See note on page 118).

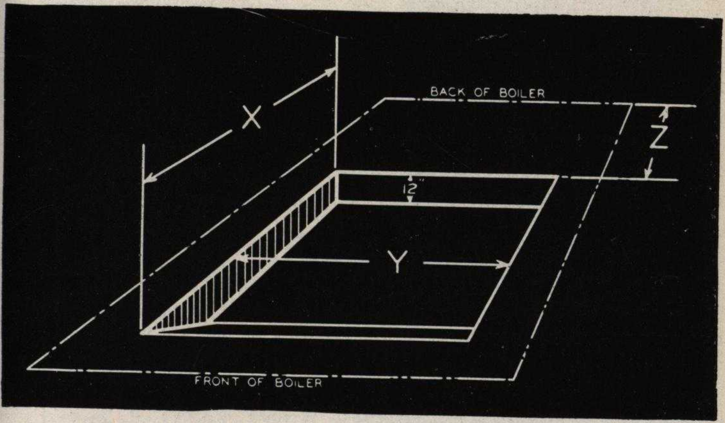
Number of Boiler		"L" Length Inches	Steam		Water	
Steam	Water		Outlets Number and Size	Inlets Number and Size	Outlets Number and Size	Inlets Number and Size
S-7909	W-7909	60	1-10″	1-4″	1-10″	2-10″
S-7910	W-7910	66	1-10″	1-4″	1-10″	2-10″
S-7911	W-7911	72	2-10″	1-4″	2-10″	2-10″
S-7912	W-7912	78	2-10″	1-4″	2-10″	2-10″
S-7913	W-7913	84	2-10″	1-4″	2-10″	2-10″
S-7914	W-7914	90	2-10″	1-4″	2-10″	2-10″
S-7915	W-7915	96	2-10″	1-4″	2-10″	2-10″
S-7916	W-7916	102	2-10″	1-4″	2-10″	2-10″
S-7917	W-7917	108	2-10″	1-4″	2-10″	2-10″

Number of Boiler		Assemblage
Steam	Water	
S-7909	W-7909	A-7C-H
S-7910	W-7910	A-8C-H
S-7911	W-7911	A-9C-H
S-7912	W-7912	A-10C-H
S-7913	W-7913	A-11C-H
S-7914	W-7914	A-12C-H
S-7915	W-7915	A-11C-BW-U-H
S-7916	W-7916	A-FC-10C-BW-2U-H
S-7917	W-7917	A-FC-11C-BW-2U-H

A = 9″ Front Section.
C = 6″ Center Section.
FC = 6″ Front Center Section

BW = 6″ Bridgewall Section.
U = 6″ Rear Center Uptake Section.
H = 9″ Back Section.

Ideal Water Tube Boilers
ANTHRACITE
Ashpit Dimensions



29″ Ideal Water Tube Boiler

Number of Boiler	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
S or W-2905	12	24	23	3
S or W-2906	12	30	23	3
S or W-2907	12	36	23	3
S or W-2908	12	42	23	3
S or W-2909	12	48	23	3
S or W-2910	12	54	23	3

36″ Ideal Water Tube Boiler

Number of Boiler	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
S or W-3606	12	30	42	3
S or W-3607	12	36	42	3
S or W-3608	12	42	42	3
S or W-3609	12	48	42	3
S or W-3610	12	54	42	3
S or W-3611	12	60	42	3
S or W-3612	12	66	42	3
S or W-3613	12	72	42	3
S or W-3614	12	78	42	3
S or W-3615	12	84	42	3

48″ Ideal Water Tube Boiler

Number of Boiler	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
S or W-4807	12	63	50	2
S or W-4808	12	73	50	2
S or W-4809	12	73	50	14
S or W-4810	12	83	50	14
S or W-4811	12	83	50	24
S or W-4812	12	83	50	35
S or W-4813	12	94	50	35
S or W-4814	12	94	50	46

79″ Ideal Water Tube Boiler

Number of Boiler	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
S or W-7909	12	43	74	8
S or W-7910	12	49	74	8
S or W-7911	12	55	74	8
S or W-7912	12	61	74	8
S or W-7913	12	67	74	8
S or W-7914	12	73	74	8
S or W-7915	12	67	74	20
S or W-7916	12	73	74	20
S or W-7917	12	73	74	26

Ideal Water Tube Boilers
Arrangement of Grate Bars
ANTHRACITE

23″ Ideal Water Tube Boiler

Boiler Number	Left Front	Right Rear
S or W-2305	3	. . .
S or W-2306	4	. . .
S or W-2307	3	2
S or W-2308	3	3
S or W-2309	4	3
S or W-2310	4	4

29″ Ideal Water Tube Boiler

Boiler Number	Left Front	Right Rear
S or W-2905	3	. . .
S or W-2906	2	2
S or W-2907	3	2
S or W-2908	3	3
S or W-2909	4	3
S or W-2910	4	4

36″ Ideal Water Tube Boiler

Boiler Number	Left Front	Right Rear
S or W-3606	3	2
S or W-3607	3	3
S or W-3608	4	3
S or W-3609	4	4
S or W-3610	5	4
S or W-3611	5	5
S or W-3612	6	5
S or W-3613	6	6
S or W-3614	7	6
S or W-3615	7	7

48″ Ideal Water Tube Boiler

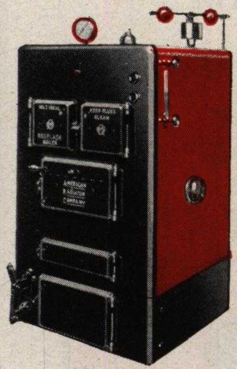
Boiler Number	Left Front	Right Rear	Dead Plates	
			Front	Rear
S or W-4807	3	3	. . .	. . .
S or W-4808	4	3	. . .	. . .
S or W-4809	4	3	1	. . .
S or W-4810	4	4	1	. . .
S or W-4811	4	4	1	1
S or W-4812	4	4	1	2
S or W-4813	5	4	1	2
S or W-4814	5	4	1	3

79″ Ideal Water Tube Boiler

Boiler Number	Left Front	Left Rear	Right Front	Right Rear
S or W-7909	4	3	4	3
S or W-7910	4	4	4	4
S or W-7911	5	4	5	4
S or W-7912	5	5	5	5
S or W-7913	6	5	6	5
S or W-7914	6	6	6	6
S or W-7915	6	5	6	5
S or W-7916	6	5	6	5
S or W-7917	6	6	6	6

IDEAL REDFLASH BOILERS

SPECIAL SMOKELESS TYPE



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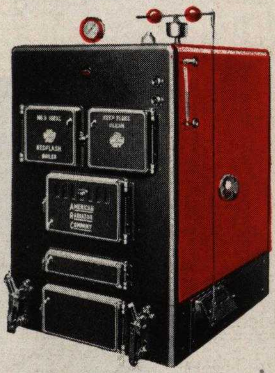

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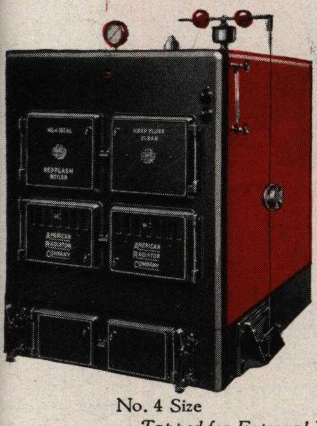

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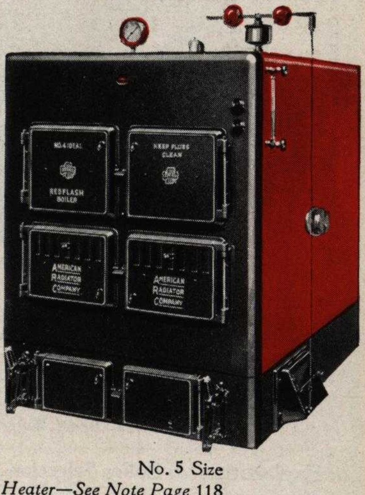


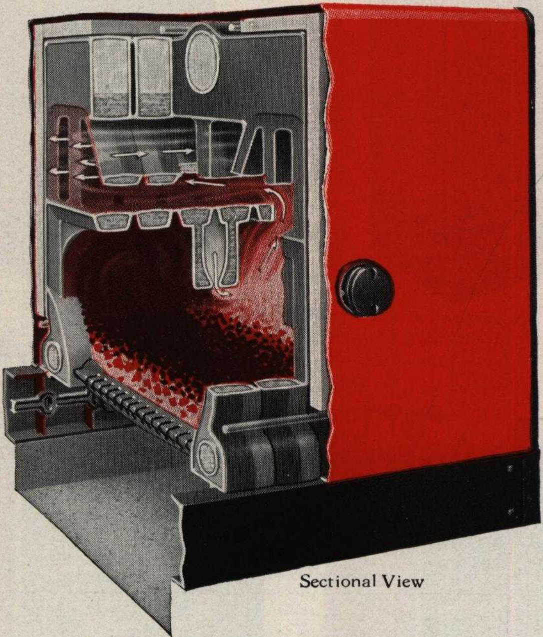
No. 5 Size

Tapped for External Water Heater—See Note Page 118

For Explanation on Boiler Selection	See Pages	4–7
For Guarantee	See Page	4
For Performance Data and Outputs	See Pages	95–99
For Data on Dimensions and Assemblage of Sections	See Pages	100–103
For Ashpit Dimensions	See Page	104
For Arrangement of Grate Bars	See Page	105
For Data on Sundries and Trimmings	See Page	168

IDEAL REDFLASH BOILER

Special Smokeless Type



Sectional View

Patented

Burns All Grades of Soft Coal Smokelessly

Tapped for External Water Heater—See Note Page 118

For Explanation on Boiler Selection	See Pages	4–7
For Guarantee	See Page	4
For Performance Data and Outputs	See Pages	95–99
For Data on Dimensions, and Assemblage of Sections	See Pages	100–103
For Ashpit Dimensions	See Page	104
For Arrangement of Grate Bars	See Page	105
For Data on Sundries and Trimmings	See Page	168

NO. 1 IDEAL REDFLASH BOILER—Soft Coal—Performance Data—Steam and Water**

STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft.	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
1-S-5	200	48000	500	120000	1-W-5	320	48000	800	120000	1.79	30	8 x 8
	275	66000				440	66000					
1-S-6	275	66000	650	156000	1-W-6	440	66000	1040	156000	2.25	30	8 x 8
	350	84000				560	84000					
1-S-7	350	84000	800	192000	1-W-7	560	84000	1280	192000	2.71	35	8 x 12
	425	102000				680	102000					
1-S-8	425	102000	950	228000	1-W-8	680	102000	1520	228000	3.17	35	8 x 12
	500	120000				800	120000					
1-S-9	500	120000	1100	264000	1-W-9	800	120000	1760	264000	3.63	35	8 x 12
	575	138000				920	138000					
1-S-10	575	138000	1250	300000	1-W-10	920	138000	2000	300000	4.09	35	12 x 12
	650	156000				1040	156000					
1-S-11	650	156000	1400	336000	1-W-11	1040	138000	2240	336000	4.55	35	12 x 12
	725	174000				1160	156000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.). Data based on fuel of 13,000 B.t.u./Lb.

For dimensions, outlets, and inlets of No. 1 Ideal Redflash Boiler for All Fuels, see page **49. For guarantee see page 4.

NO. 2 IDEAL REDFLASH SMOKELESS BOILER—Performance Data—Steam and Water

STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
2-S- 8-S	800	192000	1800	432000	2-W- 8-S	1280	192000	2880	432000	6.17	40	12 x 12
	925	222000				1480	222000					
2-S- 9-S	925	222000	2050	492000	2-W- 9-S	1480	222000	3280	492000	7.06	40	12 x 16
	1050	252000				1680	252000					
2-S-10-S	1050	252000	2300	552000	2-W-10-S	1680	252000	3680	552000	7.95	45	12 x 16
	1175	282000				1880	282000					
2-S-11-S	1175	282000	2550	612000	2-W-11-S	1880	282000	4080	612000	8.84	45	12 x 16
	1300	312000				2080	312000					
2-S-12-S	1300	312000	2800	672000	2-W-12-S	2080	312000	4480	672000	9.73	50	12 x 16
	1425	342000				2280	342000					
2-S-13-S	1425	342000	3050	732000	2-W-13-S	2280	342000	4880	732000	10.62	50	12 x 16
	1550	372000				2480	372000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u. /Lb. **For guarantee, see page 4.**

NO. 3 IDEAL REDFLASH SMOKELESS BOILER—Performance Data—Steam and Water

STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft.	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
3-S- 8-S	1500	360000	3500	840000	3-W- 8-S	2400	360000	5600	840000	9.35	50	16 x 16
	2000	480000				3200	480000					
3-S- 9-S	1750	420000	4000	960000	3-W- 9-S	2800	420000	6400	960000	10.70	50	16 x 20
	2250	540000				3600	540000					
3-S-10-S	2000	480000	4500	1080000	3-W-10-S	3200	480000	7200	1080000	12.05	55	16 x 20
	2500	600000				4000	600000					
3-S-11-S	2250	540000	5000	1200000	3-W-11-S	3600	540000	8000	1200000	13.40	60	20 x 20
	2750	660000				4400	660000					
3-S-12-S	2500	600000	5500	1320000	3-W-12-S	4000	600000	8800	1320000	14.75	65	20 x 20
	3000	720000				4800	720000					
3-S-13-S	2750	660000	6000	1440000	3-W-13-S	4400	660000	9600	1440000	16.10	65	20 x 20
	3250	780000				5200	780000					
3-S-14-S	3000	720000	6500	1560000	3-W-14-S	4800	720000	10400	1560000	17.45	70	20 x 20
	3500	840000				5600	840000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u./Lb. **For guarantee, see page 4.**

NO. 4 IDEAL REDFLASH SMOKELESS BOILER—Performance Data—Steam and Water

STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft.	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
4-S- 9-S	2750	660000	6500	1560000	4-W- 9-S	4400	660000	10400	1560000	15.66	55	20 x 20
	3500	840000				5600	840000					
4-S-10-S	3125	750000	7250	1740000	4-W-10-S	5000	750000	11600	1740000	17.64	60	20 x 20
	3875	930000				6200	930000					
4-S-11-S	3500	840000	8000	1920000	4-W-11-S	5600	840000	12800	1920000	19.62	65	20 x 24
	4250	1020000				6800	1020000					
4-S-12-S	3875	930000	8750	2100000	4-W-12-S	6200	930000	14000	2100000	21.6	70	20 x 24
	4625	1110000				7400	1110000					
4-S-13-S	4250	1020000	9500	2280000	4-W-13-S	6800	1020000	15200	2280000	23.58	75	20 x 24
	5000	1200000				8000	1200000					
4-S-14-S	4625	1110000	10250	2460000	4-W-14-S	7400	1110000	16400	2460000	25.56	75	20 x 24
	5375	1290000				8600	1290000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u./Lb. For guarantee, see page 4.

NO. 5 IDEAL REDFLASH SMOKELESS BOILER—Performance Data—Steam and Water

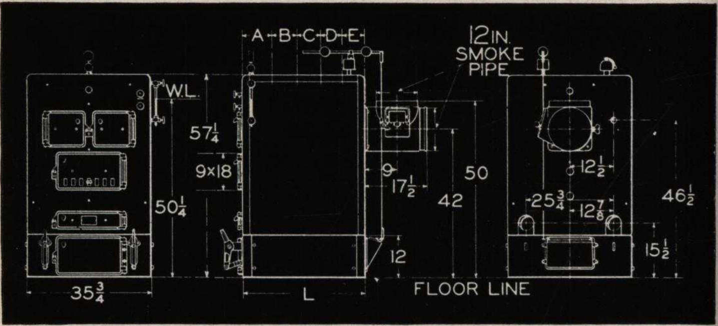
STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft.	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
5-S- 9-S	4700	1128000	9100	2184000	5-W- 9-S	7520	1128000	14560	2184000	21.52	75	24 x 28
	5800	1392000				9280	1392000					
5-S-10-S	5250	1260000	10200	2448000	5-W-10-S	8400	1260000	16320	2448000	24.21	75	24 x 28
	6350	1524000				10160	1524000					
5-S-11-S	5800	1392000	11300	2712000	5-W-11-S	9280	1392000	18080	2712000	26.90	80	24 x 28
	6900	1656000				11040	1656000					
5-S-12-S	6350	1524000	12400	2976000	5-W-12-S	10160	1524000	19840	2976000	21.52	85	24 x 28
	7450	1788000				11920	1788000					
5-S-13-S	6900	1656000	13500	3240000	5-W-13-S	11040	1656000	21600	3240000	24.21	85	30 x 36
	8000	1920000				12800	1920000					
5-S-14-S	7450	1788000	14600	3504000	5-W-14-S	11920	1788000	23360	3504000	24.21	90	30 x 36
	8550	2052000				13680	2052000					
5-S-15-S	8000	1920000	15700	3768000	5-W-15-S	12800	1920000	25120	3768000	26.90	95	30 x 36
	9100	2184000				14560	2184000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u./Lb. For guarantee, see page 4.

No. 2 Ideal Redflash Boiler—Steam or Water

SPECIAL SMOKELESS TYPE

Dimensions—Outlets—Inlets



Tapped 1½″ For External Water Heater. (See note on page **118**).

Number of Boiler		Outlets Number and Size	Inlets Number and Size	Dimensions, Ins., for Locating Flow Tappings					
Steam	Water			A	B	C	D	E	L
2-S-8-S	2-W-8-S	2-4″	2-4″	15	20	..	..	5	40
2-S-9-S	2-W-9-S	2-4″	2-4″	10	30	..	..	5	45
2-S-10-S	2-W-10-S	2-4″	2-4″	15	30	..	..	5	50
2-S-11-S	2-W-11-S	3-4″	2-4″	10	20	20	..	5	55
2-S-12-S	2-W-12-S	3-4″	2-4″	15	30	10	..	5	60
2-S-13-S	2-W-13-S	4-4″	2-4″	10	20	20	10	5	65

ASSEMBLAGE OF SECTIONS

Number of Boiler		Assemblage
Steam	Water	
2-S-8-S	2-W-8-S	F-CX-AU-BX
2-S-9-S	2-W-9-S	A-FCX-C-AU-BX
2-S-10-S	2-W-10-S	F-CX-C-AU-BX
2-S-11-S	2-W-11-S	A-FCX-C-CX-AU-BX
2-S-12-S	2-W-12-S	F-CX-C-AC-RCX-BX
2-S-13-S	2-W-13-S	A-FCX-C-CX-AC-RCX-BX

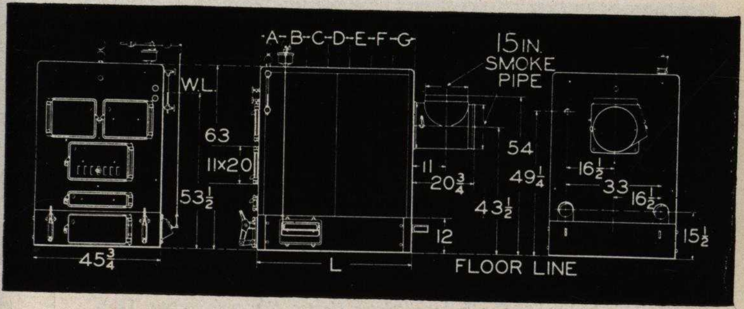
A = 5″ Front Section.
F = 10″ Front Section.
FCX = 10″ Front Center Connecting Section.
C = 10″ Center Section.
CX = 10″ Center Connecting Section.

AU = 10″ Auxiliary Air Section (with uptake).
AC = 10″ Auxiliary Air Section (no uptake).
RCX = 10″ Rear Center Uptake Connecting Section.
BX = 10″ Back Connecting Section.

No. 3 Ideal Redflash Boiler—Steam or Water

SPECIAL SMOKELESS TYPE

Dimensions—Outlets—Inlets



Tapped 2″ For External Water Heater. (See note on page 118).

Number of Boiler		Outlets Number and Size	Inlets Number and Size	Dimensions, Inches, for Locating Flow Tappings							
Steam	Water			A	B	C	D	E	F	G	L
3-S-8-S	3-W-8-S	3-4″	2-5″	9	18	12	..	..	..	9	48
3-S-9-S	3-W-9-S	4-4″	2-5″	9	12	12	12	..	..	9	54
3-S-10-S	3-W-10-S	4-4″	2-5″	9	12	12	12	..	..	15	60
3-S-11-S	3-W-11-S	4-4″	2-5″	9	12	18	18	..	..	9	66
3-S-12-S	3-W-12-S	5-4″	2-5″	9	18	12	12	12	..	9	72
3-S-13-S	3-W-13-S	5-4″	2-5″	9	18	18	12	12	..	9	78
3-S-14-S	3-W-14-S	6-4″	2-5″	9	12	12	18	12	12	9	84

ASSEMBLAGE OF SECTIONS

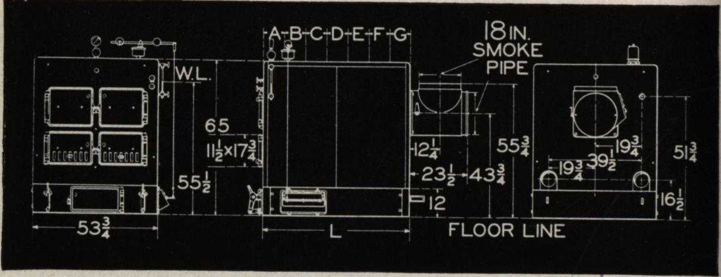
Number of Boiler		Assemblage
Steam	Water	
3-S-8-S	3-W-8-S	F-FCX-C-C-FAX-RA-RCX-B
3-S-9-S	3-W-9-S	F-FCX-C-CX-C-FAX-RA-RCX-B
3-S-10-S	3-W-10-S	F-FCX-C-CX-C-FAX-RA-RCX-RC-B
3-S-11-S	3-W-11-S	F-FCX-C-CX-C-C-FAX-RA-RC-RCX-B
3-S-12-S	3-W-12-S	F-FCX-C-C-CX-C-FAX-RA-RCX-RC-RCX-B
3-S-13-S	3-W-13-S	F-FCX-C-C-CX-C-C-FAX-RA-RCX-RC-RCX-B
3-S-14-S	3-W-14-S	F-FCX-C-CX-C-CX-C-C-FAX-RA-RCX-RC-RCX-B

F = 6″ Front Section.
FCX = 6″ Front Center Connecting Section.
C = 6″ Center Section.
CX = 6″ Center Connecting Section.
FAX = 6″ Front Auxiliary Air Connecting Section.
RA = 6″ Rear Auxiliary Air Section.
RC = 6″ Rear Center Uptake Section.
RCX = 6″ Rear Center Uptake Connecting Section.
B = 6″ Back Section.

No. 4 Ideal Redflash Boiler—Steam or Water

SPECIAL SMOKELESS TYPE

Dimensions—Outlets—Inlets



Tapped 2″ For External Water Heater. (*See note on page* 118).

Number of Boiler		Outlets Number and Size	Inlets Number and Size	Dimensions, Inches, for Locating Flow Tappings							
Steam	Water			A	B	C	D	E	F	G	L
4-S-9-S	4-W-9-S	4-4″	2-6″	10½	14	14	14	..	..	10½	63
4-S-10-S	4-W-10-S	4-4″	2-6″	10½	14	14	14	..	..	17½	70
4-S-11-S	4-W-11-S	5-4″	2-6″	10½	14	14	14	14	..	10½	77
4-S-12-S	4-W-12-S	5-4″	2-6″	10½	14	14	14	14	..	17½	84
4-S-13-S	4-W-13-S	6-4″	2-6″	10½	14	14	14	14	14	10½	91
4-S-14-S	4-W-14-S	6-4″	2-6″	10½	14	14	14	14	14	17½	98

ASSEMBLAGE OF SECTIONS

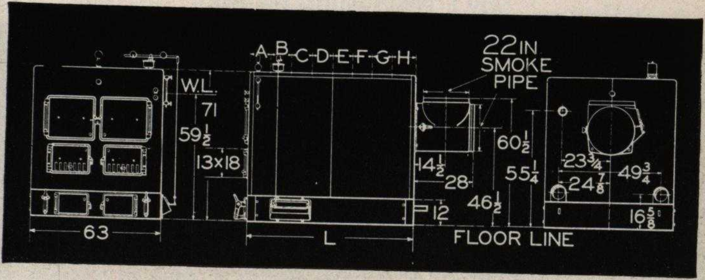
Number of Boiler		Assemblage
Steam	Water	
4-S-9-S	4-W-9-S	F-FCX-C-CX-C-FAX-RA-RCX-B
4-S-10-S	4-W-10-S	F-FCX-C-CX-C-FAX-RA-RCX-RC-B
4-S-11-S	4-W-11-S	F-FCX-C-CX-C-CX-FA-RAX-RC-RCX-B
4-S-12-S	4-W-12-S	F-FCX-C-CX-C-CX-FA-RAX-RC-RCX-RC-B
4-S-13-S	4-W-13-S	F-FCX-C-CX-C-CX-C-FAX-RA-RCX-RC-RCX-B
4-S-14-S	4-W-14-S	F-FCX-C-CX-C-CX-C-CX-FA-RAX-RC-RCX-RC-B

F = 7″Front Section.
FCX = 7″Front Center Connecting Section.
C = 7″Center Section.
CX = 7″Center Connecting Section.
FA = 7″Front Auxiliary Air Section.
FAX = 7″Front Auxiliary Air Connecting Section.
RA = 7″Rear Auxiliary Air Section.
RAX = 7″Rear Auxiliary Air Connecting Section.
RC = 7″Rear Center Uptake Section.
RCX = 7″Rear Center Uptake Connecting Section.
B = 7″Back Section.

No. 5 Ideal Redflash Boiler—Steam or Water

SPECIAL SMOKELESS TYPE

Dimensions—Outlets—Inlets



Tapped 3″ For External Water Heater. (*See note on page* 118).

Number of Boiler		Outlets Number and Size	Inlets Number and Size	Dimensions, Ins., for Locating Flow Tappings								
Steam	Water			A	B	C	D	E	F	G	H	L
5-S-9-S	5-W-9-S	4-5″	2-6″	12	16	16	16	...	...	"G" Tapping not included in this boiler	12	72
5-S-10-S	5-W-10-S	4-5″	2-6″	12	16	24	16	...	...		12	80
5-S-11-S	5-W-11-S	5-5″	2-6″	12	16	16	16	16	...		12	88
5-S-12-S	5-W-12-S	5-5″	2-6″	12	16	16	16	16	...		20	96
5-S-13-S	5-W-13-S	5-5″	2-6″	12	16	24	16	24	...		12	104
5-S-14-S	5-W-14-S	6-5″	2-6″	12	16	16	24	16	16		12	112
5-S-15-S	5-W-15-S	6-5″	2-6″	12	16	24	16	24	16		12	120

ASSEMBLAGE OF SECTIONS

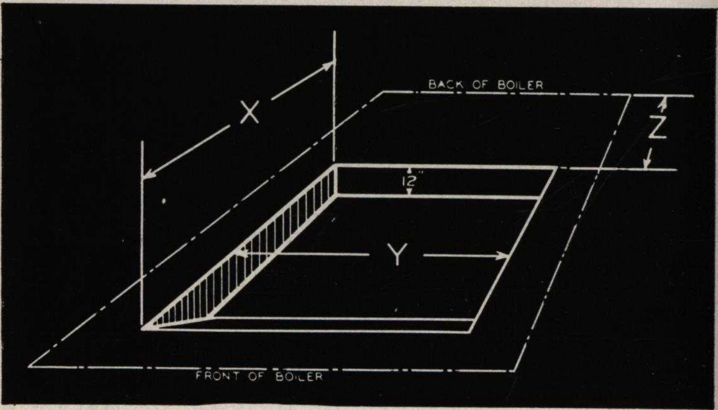
Number of Boiler		Assemblage
Steam	Water	
5-S-9-S	5-W-9-S	F-FCX-C-CX-C-FAX-RU-RCX-B
5-S-10-S	5-W-10-S	F-FCX-C-CX-C-FA-RUX-RC-RCX-B
5-S-11-S	5-W-11-S	F-FCX-C-CX-C-CX-FA-RUX-RC-RCX-B
5-S-12-S	5-W-12-S	F-FCX-C-CX-C-FAX-RA-CX-BW-RCX-RC-BD
5-S-13-S	5-W-13-S	F-FCX-C-CX-C-FA-RAX-C-CX-BW-RC-RCX-BD
5-S-14-S	5-W-14-S	F-FCX-C-CX-C-CX-FA-RA-CX-BW-RCX-RC-RCX-BD
5-S-15-S	5-W-15-S	F-FCX-C-CX-C-C-FAX-RA-CX-C-BW-RCX-RC-RCX-BD

F = 8″ Front Section.
FCX = 8″ Front Center Connecting Section.
C = 8″ Center Section.
CX = 8″ Center Connecting Section.
FA = 8″ Front Auxiliary Air Section.
FAX = 8″ Front Auxiliary Air Connecting Section.
RA = 8″ Rear Auxiliary Air Section.
RAX = 8″ Rear Auxiliary Air Connecting Section.
RU = 8″ Rear Auxiliary Air Uptake Section.
RUX = 8″ Rear Auxiliary Air Uptake Connecting Section.
BW = 8″ Bridgewall Section.
RC = 8″ Rear Center Uptake Section.
RCX = 8″ Rear Center Uptake Connecting Section.
B = 8″ Back Section.
BD = 8″ Back Section with Cleanout Door.

IDEAL REDFLASH BOILERS

SPECIAL SMOKELESS TYPE

ASHPIT DIMENSIONS



No. 2 Ideal Redflash Boiler

Number of Sections	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
8	12	32	29	4
9	12	37	29	4
10	12	42	29	4
11	12	47	29	4
12	12	52	29	4
13	12	57	29	4

No. 4 Ideal Redflash Boiler

Number of Sections	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
9	12	53	47	5
10	12	60	47	5
11	12	67	47	5
12	12	74	47	5
13	12	81	47	5
14	12	88	47	5

No. 3 Ideal Redflash Boiler

Number of Sections	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
8	12	40	39	4
9	12	46	39	4
10	12	52	39	4
11	12	58	39	4
12	12	64	39	4
13	12	70	39	4
14	12	76	39	4

No. 5 Ideal Redflash Boiler

Number of Sections	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
9	12	62	57	5
10	12	70	57	5
11	12	78	57	5
12	12	61	57	30
13	12	61	57	38
14	12	69	57	38
15	12	69	57	46

Ideal Redflash Boilers

Special Smokeless Type

ARRANGEMENT OF GRATE BARS*

No. 2 Ideal Redflash Boiler

Boiler Number	Left Front	Right Rear
2-S or W- 8-S	6	...
2-S or W- 9-S	7	...
2-S or W-10-S	4	4
2-S or W-11-S	5	4
2-S or W-12-S	5	5
2-S or W-13-S	6	5

No. 3 Ideal Redflash Boiler

Boiler Number	Left Front	Right Rear
3-S or W- 8-S	3	3
3-S or W- 9-S	4	3
3-S or W-10-S	4	4
3-S or W-11-S	5	4
3-S or W-12-S	5	5
3-S or W-13-S	6	5
3-S or W-14-S	6	6

No. 4 Ideal Redflash Boiler

Boiler Number	Left Front	Right Rear
4-S or W- 9-S	4	3
4-S or W-10-S	4	4
4-S or W-11-S	5	4
4-S or W-12-S	5	5
4-S or W-13-S	6	5
4-S or W-14-S	6	6

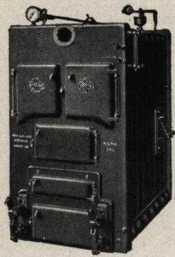
No. 5 Ideal Redflash Boiler

Boiler Number	Left Front	Right Rear	Dead Plates		
			Single	Double	Rear
5-S or W- 9-S	4	3	...	...	...
5-S or W-10-S	4	4	...	...	...
5-S or W-11-S	5	4	...	...	...
5-S or W-12-S	4	3	1	...	1
5-S or W-13-S	4	4	1	...	1
5-S or W-14-S	4	4	...	1	1
5-S or W-15-S	5	4	...	1	1

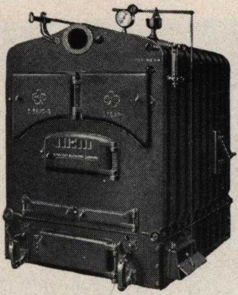
*For arrangement of grate bars of No. 1 Ideal Redflash Boiler for All Fuels, see page 55.

IDEAL WATER TUBE BOILERS

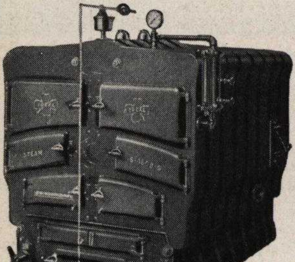
SPECIAL SMOKELESS TYPE



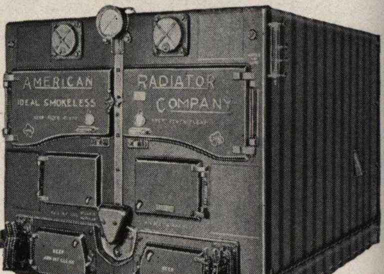
29-Inch Boiler



36-Inch Boiler



48-Inch Boiler



79-Inch Boiler

For External Water Heater Tappings—See Note Page 118

For Explanation on Boiler Selection..................See Pages 4–7
For Guarantee..See Page 4
For Performance Data and Outputs..................See Pages 107–111
For Data on Dimensions, and Assemblage of Sections..See Pages 112–115
For Ashpit Dimensions...................................See Page 116
For Arrangement of Grate Bars.......................See Page 117
For Data on Sundries and Trimmings................See Page 168

29-INCH IDEAL SMOKELESS BOILER—Performance Data—Steam and Water

STEAM BOILERS					WATER BOILERS						CHIMNEY	
	Recommended Load (Radiation Plus Piping)		Total Boiler Output			Recommended Load (Radiation Plus Piping)		Total Boiler Output				
Boiler No.	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	Boiler No.	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	Grate Area Sq. Ft.	Height Ft.	Size In.
S-2907-S	1000	240000	2400	576000	W-2907-S	1600	240000	3840	576000	7.26	40	16 x 16
	1200	288000				1920	288000					
S-2908-S	1200	288000	2800	672000	W-2908-S	1920	288000	4480	672000	8.47	45	16 x 16
	1400	336000				2240	336000					
S-2909-S	1400	336000	3200	768000	W-2909-S	2240	336000	5120	768000	9.68	50	16 x 20
	1600	384000				2560	384000					
S-2910-S	1600	384000	3600	864000	W-2910-S	2560	384000	5760	864000	10.89	55	16 x 20
	1800	432000				2880	432000					
S-2911-S	1800	432000	4000	960000	W-2911-S	2880	432000	6400	960000	12.10	60	20 x 20
	2000	480000				3200	480000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u./Lb. **For guarantee, see page 4.**

36-INCH IDEAL SMOKELESS BOILER—Performance Data—Steam and Water

STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft.	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
S-3608-S	1850	444000	4450	1068000	W-3608-S	2960	444000	7120	1068000	10.50	50	20 x 20
	2500	600000				4000	600000					
S-3609-S	2175	522000	5100	1224000	W-3609-S	3480	522000	8160	1224000	12.00	55	20 x 20
	2825	678000				4520	678000					
S-3610-S	2500	600000	5750	1380000	W-3610-S	4000	600000	9200	1380000	13.50	55	20 x 20
	3150	756000				5040	756000					
S-3611-S	2825	678000	6400	1536000	W-3611-S	4520	678000	10240	1536000	15.00	60	20 x 20
	3475	834000				5560	834000					
S-3612-S	3150	756000	7050	1692000	W-3612-S	5040	756000	11280	1692000	16.50	60	20 x 24
	3800	912000				6080	912000					
S-3613-S	3475	834000	7700	1848000	W-3613-S	5560	834000	12320	1848000	18.00	65	20 x 24
	4125	990000				6600	990000					
S-3614-S	3800	912000	8350	2004000	W-3614-S	6080	912000	13360	2004000	19.50	70	20 x 24
	4450	1068000				7120	1068000					
S-3615-S	4125	990000	9000	2160000	W-3615-S	6600	990000	14400	2160000	21.00	75	24 x 24
	4775	1146000				7640	1146000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u. /Lb. For guarantee, see page 4.

48-INCH IDEAL SMOKELESS BOILER—Performance Data—Steam and Water

STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft.	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
S-4807-S	4625	1110000	9000	2160000	W-4807-S	7400	1110000	14400	2160000	21.60	70	24 x 24
	5875	1410000				9400	1410000					
S-4808-S	5875	1410000	10250	2460000	W-4808-S	9400	1410000	16400	2460000	25.20	75	24 x 24
	7125	1710000				11400	1710000					
S-4809-S	6500	1560000	11500	2760000	W-4809-S	10400	1560000	18400	2760000	25.20	80	24 x 28
	7750	1860000				12400	1860000					
S-4810-S	7125	1710000	12750	3060000	W-4810-S	11400	1710000	20400	3060000	28.80	85	24 x 28
	8375	2010000				13400	2010000					
S-4811-S	7750	1860000	14000	3360000	W-4811-S	12400	1860000	22400	3360000	28.80	95	28 x 28
	9000	2160000				14400	2160000					
S-4812-S	8375	2010000	15250	3660000	W-4812-S	13400	2010000	24400	3660000	28.80	100	28 x 28
	9625	2310000				15400	2310000					
S-4813-S	9000	2160000	16500	3960000	W-4813-S	14400	2160000	26400	3960000	32.40	105	28 x 32
	10250	2460000				16400	2460000					
S-4814-S	9625	2310000	17750	4260000	W-4814-S	15400	2310000	28400	4260000	32.40	110	28 x 32
	10875	2610000				17400	2610000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u. /Lb. For guarantee, see page 4

79-INCH IDEAL SMOKELESS BOILER—Performance Data—Steam and Water

STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft.	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
S-7909-S	6000	1440000	14000	3360000	W-7909-S	9600	1440000	22400	3360000	21.9	85	24 x 28
	8000	1920000				12800	1920000					
S-7910-S	7000	1680000	15500	3720000	W-7910-S	11200	1680000	24800	3720000	24.9	90	24 x 28
	9000	2160000				14400	2160000					
S-7911-S	8000	1920000	17000	4080000	W-7911-S	12800	1920000	27200	4080000	28.0	95	24 x 28
	10000	2400000				16000	2400000					
S-7912-S	9000	2160000	18500	4440000	W-7912-S	14400	2160000	29600	4440000	31.1	100	28 x 28
	11000	2640000				17600	2640000					
S-7913-S	10000	2400000	20000	4800000	W-7913-S	16000	2400000	32000	4800000	34.2	105	30 x 30
	12000	2880000				19200	2880000					

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*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u./Lb. For guarantee, see page 4.

79-INCH IDEAL SMOKELESS BOILER—Performance Data—Steam and Water

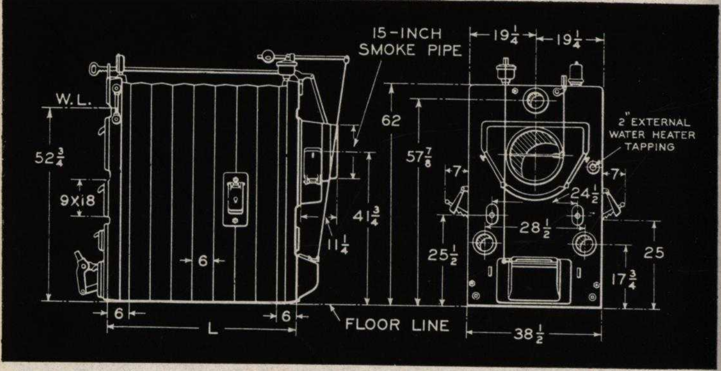
STEAM BOILERS					WATER BOILERS						CHIMNEY	
Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Boiler No.	Recommended Load (Radiation Plus Piping)		Total Boiler Output		Grate Area Sq. Ft.	Height Ft.	Size In.
	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour	E. D. R.* (240 B.t.u.)	B.t.u. Per Hour		E. D. R.* (150 B.t.u.)	B.t.u. Per Hour	E. D. R.* (150 B.t.u.)	B.t.u. Per Hour			
S-7914-S	11000	2640000	21500	5160000	W-7914-S	17600	2640000	34400	5160000	37.3	110	30 x 36
	13000	3120000				20800	3120000					
S-7915-S	12000	2880000	23000	5520000	W-7915-S	19200	2880000	36800	5520000	34.2	115	30 x 36
	14000	3360000				22400	3360000					
S-7916-S	12000	2880000	24500	5880000	W-7916-S	19200	2880000	39200	5880000	**34.2**	120	36 x 36
	14000	3360000				22400	3360000					
S-7917-S	13000	3120000	26000	6240000	W-7917-S	20800	3120000	41600	6240000	37.3	125	36 x 36
	15000	3600000				24000	3600000					

*E. D. R. expresses Boiler Load in Equivalent Direct Radiation—Steam (240 B.t.u.)—Water (150 B.t.u.).
Data based on fuel of 13,000 B.t.u./Lb. For guarantee, see page 4.

29-Inch Ideal Water Tube Boiler—Steam or Water

Special Smokeless Type

Dimensions—Outlets—Inlets



Tapped 2″ For External Water Heater. (See note on page 118).

Number of Boiler		Length Inches	Outlets Number and Size	Inlets Number and Size
Steam	Water			
S-2907-S	W-2907-S	42″	2-5″	2-5″
S-2908-S	W-2908-S	48″	2-5″	2-5″
S-2909-S	W-2909-S	54″	2-5″	2-5″
S-2910-S	W-2910-S	60″	2-5″	2-5″
S-2911-S	W-2911-S	66″	2-5″	2-5″

ASSEMBLAGE OF SECTIONS

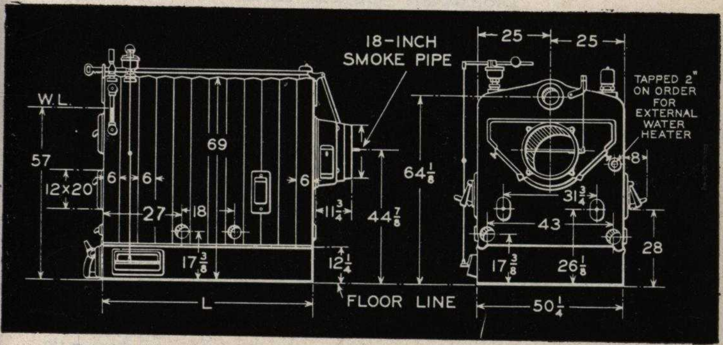
Number of Boiler		Assemblage
Steam	Water	
S-2907-S	W-2907-S	A-3C-FA-OA-H
S-2908-S	W-2908-S	A-3C-FA-OA-U-H
S-2909-S	W-2909-S	A-4C-FA-OA-U-H
S-2910-S	W-2910-S	A-5C-FA-OA-U-H
S-2911-S	W-2911-S	A-6C-FA-OA-U-H

A =6″ Front Section.
C =6″ Center Section.
FA =6″ Front Auxiliary Air Section.
U =6″ Rear Center Uptake Section.
OA =6″ Rear Auxiliary Air Section (Open Uptake).
H =6″ Back Section.

36-Inch Ideal Water Tube Boiler—Steam and Water

Special Smokeless Type

Dimensions—Outlets—Inlets



Tapped 2" on Order For External Water Heater. (*See note on page* 118).

Number of Boiler		"L" Length Inches	Steam		Water	
Steam	Water		Outlets Number and Size	Inlets Number and Size	Outlets Number and Size	Inlets Number and Size
S-3608-S	W-3608-S	48″	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3609-S	W-3609-S	54″	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3610-S	W-3610-S	60″	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3611-S	W-3611-S	66″	2-6″	2-4″	2-6″	2-3½″ & 2-4″
S-3612-S	W-3612-S	72″	2-6″	2-4″	2-6″	4-3½″ & 2-4″
S-3613-S	W-3613-S	78″	2-6″	2-4″	2-6″	4-3½″ & 2-4″
S-3614-S	W-3614-S	84″	2-6″	2-4″	2-6″	4-3½″ & 2-4″
S-3615-S	W-3615-S	90″	2-6″	2-4″	2-6″	4-3½″ & 2-4″

ASSEMBLAGE OF SECTIONS

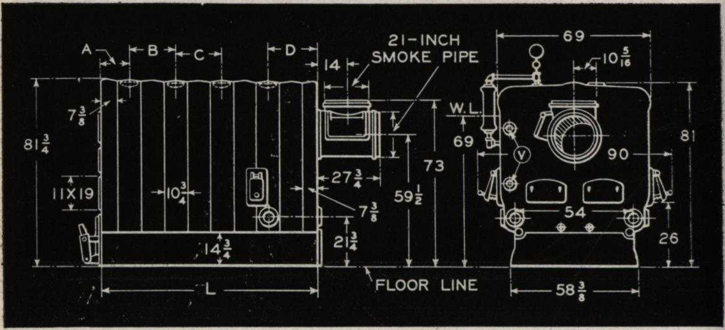
Steam Boilers		Water Boilers	
Number of Boiler	Assemblage	Number of Boiler	Assemblage
S-3608-S	A-CT-3C-FA-OA-H	W-3608-S	A-CT-2C-D-FA-OA-H
S-3609-S	A-CT-3C-FA-OA-U-H	W-3609-S	A-CT-2C-D-FA-OA-U-H
S-3610-S	A-CT-4C-FA-OA-U-H	W-3610-S	A-CT-2C-D-C-FA-OA-U-H
S-3611-S	A-CT-5C-FA-OA-U-H	W-3611-S	A-CT-2C-D-2C-FA-OA-U-H
S-3612-S	A-B-6C-FA-OA-U-H	W-3612-S	A-B-2C-D-2C-D-FA-OA-U-H
S-3613-S	A-B-6C-FA-OA-2U-H	W-3613-S	A-B-2C-D-2C-D-FA-OA-2U-H
S-3614-S	A-B-7C-FA-OA-2U-H	W-3614-S	A-B-2C-D-2C-D-C-FA-OA-2U-H
S-3615-S	A-B-8C-FA-OA-2U-H	W-3615-S	A-B-2C-D-2C-D-2C-FA-OA-2U-H

A = 6″ Front Section.
B = 6″ Front Center Section—tapped for regulator.
CT = 6″ Center Section—Tapped for regulator.
C = 6″ Center Section.
D = 6″ Center Connecting Section.
FA = 6″ Front Auxiliary Air Section.
OA = 6″ Rear Auxiliary Air Section (Open Uptake).
U = 6″ Rear Center Uptake Section.
H = 6″ Back Section.

48-Inch Ideal Water Tube Boiler—Steam or Water

Special Smokeless Type

Dimensions—Outlets—Inlets



Tapped 3″ on Order For External Water Heater at Points V. (*See note on page* 118).

Number of Boiler			Steam		Water		Boiler Outlets			
Steam	Water	Total Length	Outlets Number and Size	Inlets Number and Size	Outlets Number and Size	Inlets Number and Size	A	B	C	D
S-4807-S	W-4807-S	68½″	3-6″	4-4″	3-6″	4-6″	12¾″	21½″	......	12¾″
S-4808-S	W-4808-S	79¼″	3-6″	4-4″	3-6″	4-6″	12¾″	21½″	......	12¾″
S-4809-S	W-4809-S	90″	3-6″	4-4″	3-6″	4-6″	12¾″	32¼″	......	23½″
S-4810-S	W-4810-S	100¾″	3-6″	4-4″	3-6″	4-6″	12¾″	32¼″	......	23½″
S-4811-S	W-4811-S	111½″	4-6″	4-4″	4-6″	4-6″	12¾″	21½″	21½″	23½″
S-4812-S	W-4812-S	122¼″	4-6″	4-4″	4-6″	4-6″	12¾″	21½″	21½″	23½″
S-4813-S	W-4813-S	133″	4-6″	4-4″	4-6″	4-6″	12¾″	21½″	32¼″	23½″
S-4814-S	W-4814-S	143¾″	4-6″	4-4″	4-6″	4-6″	12¾″	21½″	32¼″	23½″

ASSEMBLAGE OF SECTIONS

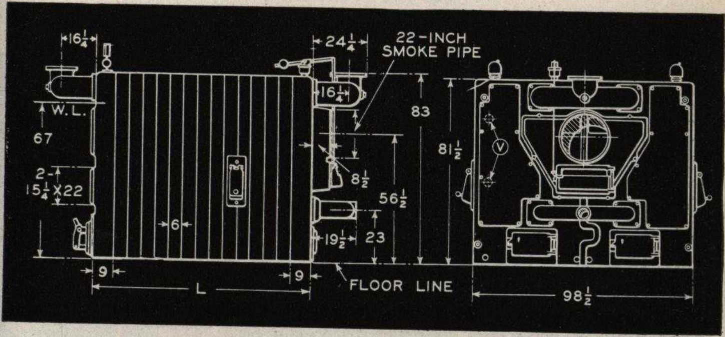
Number of Boiler		Assemblage	
Steam	Water	Left Half	Right Half
S-4807-S	W-4807-S	A-CX-F-NX-SA-RX-I	A-K-F-F-SA-OX-I
S-4808-S	W-4808-S	A-CX-F-NX-F-SA-RX-I	A-K-F-F-F-SA-OX-I
S-4809-S	W-4809-S	A-CX-F-F-NX-SA-RX-U-I	A-K-F-F-F-SA-OX-U-I
S-4810-S	W-4810-S	A-CX-F-F-NX-F-SA-RX-U-I	A-K-F-F-F-F-SA-OX-U-I
S-4811-S	W-4811-S	A-CX-F-NX-F-NX-SA-RA-GX-U-I	A-K-F-F-F-F-SA-RA-MX-U-I
S-4812-S	W-4812-S	A-CX-F-NX-F-NX-SA-RA-U-GX-U-I	A-K-F-F-F-F-SA-RA-U-MX-U-I
S-4813-S	W-4813-S	A-CX-F-NX-F-F-NX-SA-RA-U-GX-U-I	A-K-F-F-F-F-F-SA-RA-U-MX-U-I
S-4814-S	W-4814-S	A-CX-F-NX-F-F-NX-SA-RA-F-U-GX-U-I	A-K-F-F-F-F-F-SA-RA-F-U-MX-U-I

A = 7⅜″ Front Section.
K = 10¾″ Closed Front Flue.
CX = 10¾″ Closed Front Flue Connecting (Supply Only).
F = 10¾″ Closed Center Section.
NX = 10¾″ Closed Center Connecting (Supply Only).
SA = 10¾″ Front Auxiliary Air Section.
RA = 10¾″ Rear Auxiliary Air Section.
RX = 10¾″ Rear Auxiliary Air Open Uptake Section (Supply and Return).
OX = 10¾″ Rear Auxiliary Air Open Uptake Section (Return Only).
U = 10¾″ Open Rear Center.
MX = 10¾″ Open Rear Center Connecting (Return Only).
GX = 10¾″ Open Rear Center Connecting (Supply and Return).
I = 7⅜″ Open Back.

79-Inch Ideal Water Tube Boiler—Steam or Water

Special Smokeless Type

Dimensions—Outlets—Inlets



Tapped 3″ on Order for External Water Heater at Points V. (See note on page 118).

Number of Boiler		Total Length	Steam Boiler		Water Boiler	
Steam	Water		Outlets Number and Size	Inlets Number and Size	Outlets Number and Size	Inlets Number and Size
S-7909-S	W-7909-S	60″	1-10″	1-4″	1-10″	2-10″
S-7910-S	W-7910-S	66″	1-10″	1-4″	1-10″	2-10″
S-7911-S	W-7911-S	72″	2-10″	1-4″	2-10″	2-10″
S-7912-S	W-7912-S	78″	2-10″	1-4″	2-10″	2-10″
S-7913-S	W-7913-S	84″	2-10″	1-4″	2-10″	2-10″
S-7914-S	W-7914-S	90″	2-10″	1-4″	2-10″	2-10″
S-7915-S	W-7915-S	96″	2-10″	1-4″	2-10″	2-10″
S-7916-S	W-7916-S	102″	2-10″	1-4″	2-10″	2-10″
S-7917-S	W-7917-S	108″	2-10″	1-4″	2-10″	2-10″

ASSEMBLAGE OF SECTIONS

Number of Boiler		Assemblage
Steam	Water	
S-7909-S	W-7909-S	A-5C-FA-RA-H
S-7910-S	W-7910-S	A-6C-FA-RA-H
S-7911-S	W-7911-S	A-6C-FA-RA-U-H
S-7912-S	W-7912-S	A-7C-FA-RA-U-H
S-7913-S	W-7913-S	A-8C-FA-RA-U-H
S-7914-S	W-7914-S	A-9C-FA-RA-U-H
S-7915-S	W-7915-S	A-8C-FA-RA-C-BW-U-H
S-7916-S	W-7916-S	A-FC-7C-FA-RA-C-BW-2U-H
S-7917-S	W-7917-S	A-FC-8C-FA-RA-C-BW-2U-H

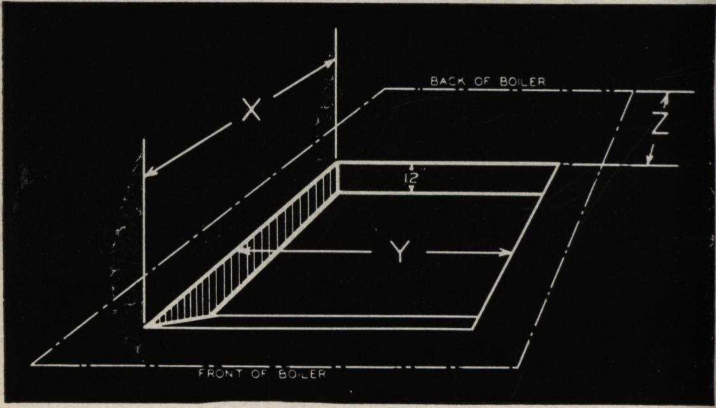
A = 9″ Front Section.
FC = 6″ Front Center Section.
C = 6″ Center Section.
FA = 6″ Front Auxiliary Air Section.

RA = 6″ Rear Auxiliary Air Section.
BW = 6″ Bridgewall Section.
U = 6″ Rear Center Uptake Section.
H = 9″ Back Section.

IDEAL WATER TUBE BOILERS

Special Smokeless Type

Ash Pit Dimensions



29″ Ideal Water Tube Boiler

Number of Boiler	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
S or W-2907-S	12	36	23	3
S or W-2908-S	12	42	23	3
S or W-2909-S	12	48	23	3
S or W-2910-S	12	54	23	3
S or W-2911-S	12	60	23	3

36″ Ideal Water Tube Boiler

Number of Boiler	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
S or W-3608-S	12	42	42	3
S or W-3609-S	12	48	42	3
S or W-3610-S	12	54	42	3
S or W-3611-S	12	60	42	3
S or W-3612-S	12	66	42	3
S or W-3613-S	12	72	42	3
S or W-3614-S	12	78	42	3
S or W-3615-S	12	84	42	3

48″ Ideal Water Tube Boiler

Number of Boiler	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
S or W-4807-S	12	63	50	2
S or W-4808-S	12	73	50	2
S or W-4809-S	12	73	50	14
S or W-4810-S	12	83	50	14
S or W-4811-S	12	83	50	24
S or W-4812-S	12	83	50	35
S or W-4813-S	12	94	50	35
S or W-4814-S	12	94	50	46

79″ Ideal Water Tube Boiler

Number of Boiler	Dimensions in Inches			
	Depth	"X"	"Y"	"Z"
S or W-7909-S	12	43	74	8
S or W-7910-S	12	49	74	8
S or W-7911-S	12	55	74	8
S or W-7912-S	12	61	74	8
S or W-7913-S	12	67	74	8
S or W-7914-S	12	73	74	8
S or W-7915-S	12	67	74	20
S or W-7916-S	12	73	74	20
S or W-7917-S	12	73	74	26

IDEAL WATER TUBE BOILERS

Special Smokeless Type

Arrangement of Grate Bars

Boiler Number	Left Front	Right Rear
S or W-2907-S	3	2
S or W-2908-S	3	3
S or W-2909-S	4	3
S or W-2910-S	4	4
S or W-2911-S	5	4

Boiler Number	Left Front	Right Rear
S or W-3608-S	4	3
S or W-3609-S	4	4
S or W-3610-S	5	4
S or W-3611-S	5	5
S or W-3612-S	6	5
S or W-3613-S	6	6
S or W-3614-S	7	6
S or W-3615-S	7	7

Boiler Number	Left Front	Right Rear	Dead Plates	
			Front	Rear
S or W-4807-S	3	3	...	...
S or W-4808-S	4	3	...	...
S or W-4809-S	4	3	1	...
S or W-4810-S	4	4	1	...
S or W-4811-S	4	4	1	1
S or W-4812-S	4	4	1	2
S or W-4813-S	5	4	1	2
S or W-4814-S	5	4	1	3

Boiler Number	Left Front	Left Rear	Right Front	Right Rear
S or W-7909-S	4	3	4	3
S or W-7910-S	4	4	4	4
S or W-7911-S	5	4	5	4
S or W-7912-S	5	5	5	5
S or W-7913-S	6	5	6	5
S or W-7914-S	6	6	6	6
S or W-7915-S	6	5	6	5
S or W-7916-S	6	5	6	5
S or W-7917-S	6	6	6	6

TAPPINGS FOR EXTERNAL WATER HEATER

Ideal Arco Round Boilers
New Ideal Arco Round Boilers

These boilers are regularly furnished with necessary tappings for External Water Heater. For additional tappings or any change in size or number of tappings, extra net charge will be made.

Ideal Redflash Boilers

All Redflash Boilers (excepting No. 1 Series Water Boilers) are tapped on rear of back section for external water heater. All intermediate sections are furnished with bosses for external water heater tappings the same distance from the floor as the tappings on the rear of the back section. These bosses will be tapped on special order, at extra net charges indicated in price list.

Ideal Water Tube Boilers

The 23-Inch and 29-Inch Water Tube Boilers are regularly tapped on rear of back section for external water heater. Back section tappings for 36-Inch, 48-Inch and 79-Inch Water Tube Boilers can be furnished on special order.

All intermediate sections are furnished with bosses for external water heater tappings the same distance from the floor as the tapping on the rear of back section. These bosses will be tapped on special order, at extra net charges indicated in price list.

Ideal Magazine Boilers

All sections of both the No. 15 and No. 25 Magazine Boilers (excepting the front and back sections) are furnished with bosses on the right hand side as you face the front of boiler.

On special order and at extra net charges indicated in price list, these bosses can be tapped 1½ inches and jackets also cut accordingly, where desired.

The distance from floor line to center line of these tappings will be as follows:

No. 15 Boiler—37⅛″
No. 25 Boiler—39¾″

Arco Oil Burning Boiler No. 11
Ideal Oil Burning Boiler No. 12—De Luxe Model
Ideal Boiler No. 21 for Automatic Coal Firing—De Luxe Model

Biltin Taco Heaters providing for Taco-Abbott System for Summer-Winter domestic hot water supply can be furnished with these boilers, as follows:

For Arco Oil Burning Boiler No. 11

Biltin Taco Heater of 40 or 100 gallon tank capacity may be supplied. Biltin Tankless Taco Heater of 180 or 210 gallon capacity may also be furnished.

Biltin Tankless Taco Heaters are not recommended for use with four or five section No. 11 Boilers because of the relatively low burner setting which would be used. When Biltin Tankless Taco Heater is used on hot water installations, a water temperature of 180° F. must be maintained in the boiler. This requires the use of a special valve in the main and additional reverse action aquastat.

All Taco Heater capacities given are based on minimum boiler water temperature of 180° F.

For Ideal Oil Burning Boiler No. 12—De Luxe Model

Biltin Taco Heater of 40, 100 or 160 gallon tank capacity may be supplied. Biltin Tankless Taco Heater of 180 or 210 gallon capacity may also be furnished. When Biltin Tankless Taco Heater is used on hot water installations, a water temperature of 180° F. must be maintained in the boiler. This requires the use of a special valve in the main and additional reverse action aquastat.

All Taco Heater capacities given are based on minimum boiler water temperature of 180° F.

For Ideal Boiler No. 21 for Automatic Coal Firing—De Luxe Model

Biltin Taco Heater of 40, 100 or 160 gallon tank capacity may be supplied.

All Taco Heater capacities given are based on minimum boiler water temperature of 180° F.

When Biltin Taco Heater is installed on any of above boilers, add 1 square foot per gallon of tank capacity to installed radiation on steam boilers and 2 square feet per gallon of tank capacity on water boilers before selecting boiler size. When Biltin Tankless Taco Heater is installed, add 50 square feet steam radiation per bathroom or 80 square feet water radiation per bathroom to installed radiation before selecting boiler size.

Dimensions of external connections of Taco Heaters are as follows:

Biltin Type

No. 632—1″
No. 633—1¼″
No. 634—1¼″

No. 598—1″
No. 599—1¼″

Biltin Tankless Type

No. 582—¾″
No. 583—¾″

No. 584—¾″
No. 585—¾″

An external type water heater may be connected to No. 11, No. 12 and No. 21 boilers by tapping a boss on the blind flange which is provided to cover the Taco opening in the back section of the boiler. All intermediate sections of No. 12 and No. 21 boilers are also equipped with bosses which can be tapped on special order at small extra charge. Intermediate sections of the No. 11 boiler are not equipped with this boss.

All boilers are provided with a large upper nipple, permitting ample water circulation so that outside headers are not required.

Ideal Oil Burning Boiler No. 92—De Luxe Model

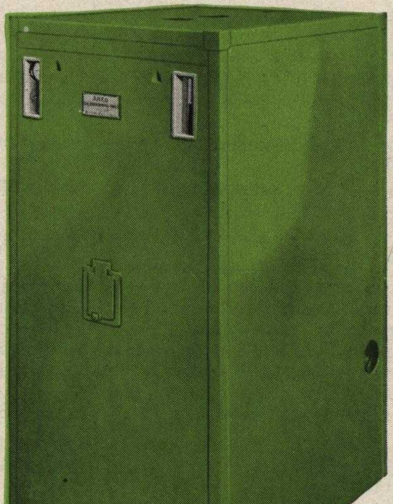
The back section of this boiler has 2-inch tapping for external water heater connection.

Special tappings can be furnished on special order for external water heater connections, on right or left hand side of intermediate sections, at extra net charges indicated in price list.

ARCO OIL BURNING BOILER NO. 11

For the Smaller Home

With Flush Jacket



Note: This boiler has "knockout" in front panel for installation of oil burner.

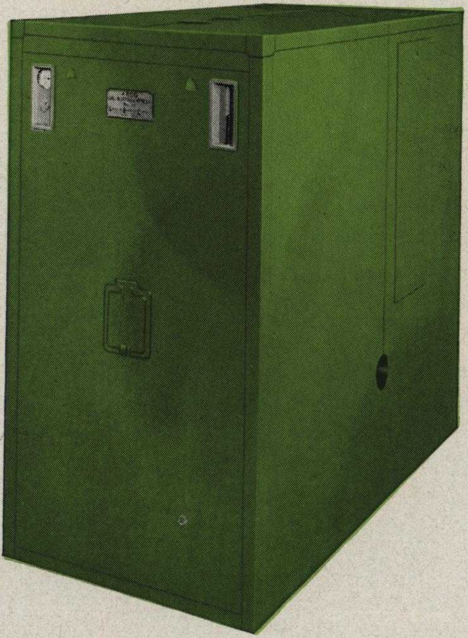
For Built-In or External Water Heater	See Note Page	118
For Explanation on Boiler Selection	See Pages	7–9
For Guarantee and Statement on Outputs	See Page	8
For Ratings and Data	See Page	124
For Data on Dimensions and Assemblage of Sections	See Page	123
For Data on Sundries and Trimmings	See Page	168

ARCO OIL BURNING BOILER NO. 11

For the Smaller Home

With Extended Jacket

(Its Jacket Conceals the Burner)

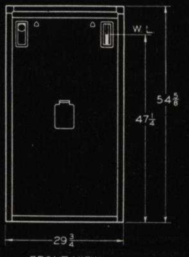


For Built-In and External Water Heater................See Note Page 118
For Explanation on Boiler Selection...................See Pages 7–9
For Guarantee and Statement of Outputs..............See Page 8
For Ratings and Data..........................See Page 124
For Data on Dimensions and Assemblage of Sections....See Page 123
For Data on Sundries and Trimmings.................See Page 168

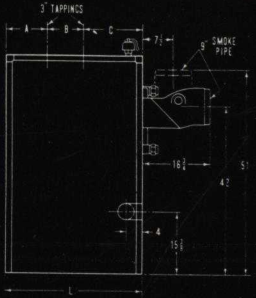
ARCO OIL BURNING BOILER, NO. 11

With Flush and Extended Jacket

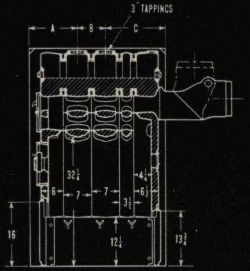
Dimensions—Outlets—Inlets

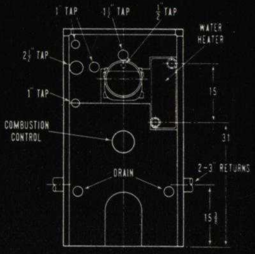


FRONT VIEW

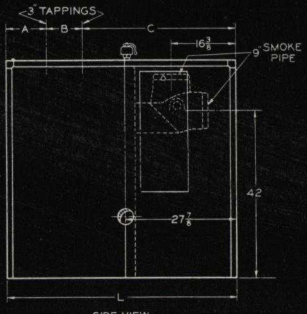


SIDE VIEW

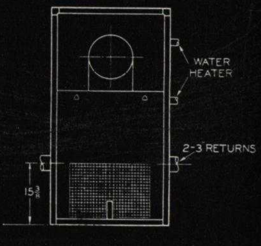




BACK VIEW



SIDE VIEW
EXTENDED JACKET



BACK VIEW
EXTENDED JACKET

ARCO OIL BURNING BOILER NO. 11
DIMENSIONS: OUTLETS—INLETS

FLUSH JACKET

No. of Boiler		No. and Size of Outlets	No. and Size of Inlets	Length "L" Inches	Dimensions—Inches		
Steam	Water				A	B	C
S-0411	W-0411	1—3″	2—3″	$23\frac{7}{16}$	$12\frac{3}{32}$	.....	$11\frac{11}{32}$
S-0511	W-0511	1—3″	2—3″	$26\frac{15}{16}$	$12\frac{3}{32}$	.....	$14\frac{27}{32}$
S-0611	W-0611	2—3″	2—3″	$30\frac{7}{16}$	$12\frac{3}{32}$	7	$11\frac{11}{32}$
S-0711	W-0711	2—3″	2—3″	$33\frac{15}{16}$	$12\frac{3}{32}$	7	$14\frac{27}{32}$
S-0811	W-0811	2—3″	2—3″	$37\frac{7}{16}$	$12\frac{3}{32}$	14	$11\frac{11}{32}$
S-0911	W-0911	2—3″	2—3″	$40\frac{15}{16}$	$12\frac{3}{32}$	14	$14\frac{27}{32}$

EXTENDED JACKET

No. of Boiler		No. and Size of Outlets	No. and Size of Inlets	Length "L" Inches	Dimensions—Inches		
Steam	Water				A	B	C
S-0411	W-0411	1—3″	2—3″	$47\frac{3}{16}$	$12\frac{3}{32}$	.....	$35\frac{3}{32}$
S-0511	W-0511	1—3″	2—3″	$50\frac{11}{16}$	$12\frac{3}{32}$	.....	$38\frac{19}{32}$
S-0611	W-0611	2—3″	2—3″	$54\frac{3}{16}$	$12\frac{3}{32}$	7	$35\frac{3}{32}$
S-0711	W-0711	2—3″	2—3″	$57\frac{11}{16}$	$12\frac{3}{32}$	7	$38\frac{19}{32}$
S-0811	W-0811	2—3″	2—3″	$61\frac{3}{16}$	$12\frac{3}{32}$	14	$35\frac{3}{32}$
S-0911	W-0911	2—3″	2—3″	$64\frac{11}{16}$	$12\frac{3}{32}$	14	$38\frac{19}{32}$

See page 118 for data on Biltin Taco Heaters.

ASSEMBLAGE OF SECTIONS

No. of Boiler		Assemblages
Steam	Water	
S-0411	W-0411	F-CX-B
S-0511	W-0511	F-CX-NC-B
S-0611	W-0611	F-CX-CX-B
S-0711	W-0711	F-CX-CX-NC-B
S-0811	W-0811	F-CX-C-CX-B
S-0911	W-0911	F-CX-C-CX-NC-B

F—6″ Front Section; C—7″ Center Section; CX—7″ Center Connecting Section; NC—3½″ Narrow Center Section; B—6½″ Back Section.

IMPORTANT: When ordering boiler with Flush Jacket specify whether Gun Type or Rotary Type Burner will be used.

NOTE: Flush Jacket Boilers have "knockout" in front panel for installation of oil burner.

ARCO OIL BURNING BOILER NO. 11

RATINGS AND DATA

STEAM BOILERS

No. of Boiler	Installed Radiation Boiler will carry Sq. Ft. (4500 B.t.u. Transmission Rate)	Minimum Burner Capacity Lbs. Oil /Hr. (4500 B.t.u. Transmission Rate)	Heating Surface Sq. Feet	Firebox Dimensions				Height of Base	Chimney	
				Width, Inches						
				at Grate Line	9″ Above Grate Line	Height Inches Floor to Crown Sheet	Length Inches		Size Inches	Height Feet
S-0411	355	8.5	27.3	18	18	32¼	14 15/16	12¼″	8 x 8	30
S-0511	435	10.3	33.4	18	18	32¼	18 7/16	12¼″	8 x 8	30
S-0611	515	12.1	39.6	18	18	32¼	21 15/16	12¼″	8 x 8	30
S-0711	595	13.5	45.7	18	18	32¼	25 7/16	12¼″	8 x 12	35
S-0811	675	14.9	51.8	18	18	32¼	28 15/16	12¼″	8 x 12	35
S-0911	755	16.3	58.0	18	18	32¼	32 7/16	12¼″	8 x 12	35

WATER BOILERS

No. of Boiler	Installed Radiation Boiler will carry Sq. Ft. (4500 B.t.u. Transmission Rate)	Minimum Burner Capacity Lbs. Oil /Hr. (4500 B.t.u. Transmission Rate)	Heating Surface Sq. Feet	Firebox Dimensions				Height of Base	Chimney	
				Width, Inches						
				at Grate Line	9″ Above Grate Line	Height Inches Floor to Crown Sheet	Length Inches		Size Inches	Height Feet
W-0411	570	8.5	27.3	18	18	32¼	14 15/16	12¼″	8 x 8	30
W-0511	695	10.3	33.4	18	18	32¼	18 7/16	12¼″	8 x 8	30
W-0611	825	12.1	39.6	18	18	32¼	21 15/16	12¼″	8 x 8	30
W-0711	950	13.5	45.7	18	18	32¼	25 7/16	12¼″	8 x 12	35
W-0811	1080	14.9	51.8	18	18	32¼	28 15/16	12¼″	8 x 12	35
W-0911	1205	16.3	58.0	18	18	32¼	32 7/16	12¼″	8 x 12	35

IMPORTANT: When ordering boilers with Flush Jackets specify whether Gun Type or Rotary Type Burner will be used.

See page 118 for data on Biltin Taco Heaters.

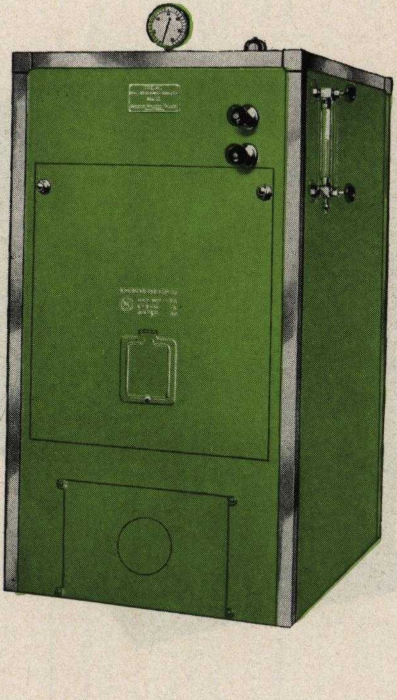
See page 8 for guarantee and statement regarding outputs.

See page 7 for Boiler Selection.

IDEAL OIL BURNING BOILER NO. 12

De Luxe Model

With Flush Jacket



For Built-In and External Water Heater—See Note Page 119

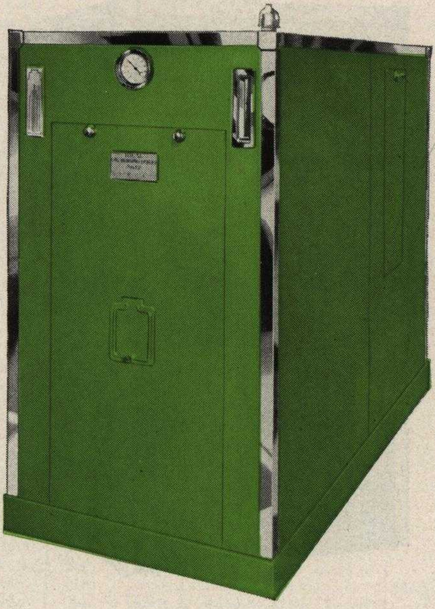
For Explanation on Boiler Selection..................	See Pages	7–9
For Guarantee and Statement on Ratings.............	See Page	8
For Performance Data and Outputs....................	See Page	127
For Data on Dimensions, and Assemblage of Sections....	See Page	129
For Data on Sundries and Trimmings	See Page	168

IDEAL OIL BURNING BOILER NO. 12

De Luxe Model

With Extended Jacket

(Its Jacket Conceals the Burner)



For Built-In or External Water Heater.................See Note Page 119

For Explanation on Boiler Selection..................See Pages 7–9

For Guarantee and Statement on Ratings.............See Page 8

For Ratings and Data................................See Page 127

For Data on Dimensions and Assemblage of Sections....See Page 131

For Data on Sundries and Trimmings..................See Page 168

IDEAL OIL BURNING BOILER NO. 12

Both Flush and Extended Jacket Types

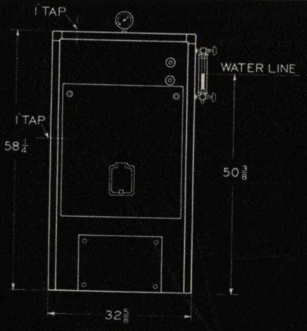
RATINGS AND DATA

No. of Boiler Steam or Water	Transmission Rate 4,000 B.t.u./Sq. Ft.			Transmission Rate 4,500 B.t.u./Sq. Ft.			Heating Surface Sq. Ft.	FIREBOX DIMENSIONS				Chimney	
	Installed Radiation Boiler will carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil/Hr.	Installed Radiation Boiler will carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil/Hr.		Width, Inches		Height Inches Floor to Crown Sheet	Length Inches	Size Inches	Height Feet
	Steam	Water		Steam	Water			At Grate Line	9″ Above Grate Line				
0412	450	720	10.8	510	815	12.1	42.3	23	23	32¾	22¼	8 x 8	30
0512	585	935	13.8	660	1,055	15.6	54.7	23	23	32¾	30¼	8 x 8	30
0612	720	1,150	16.9	810	1,300	19.1	67.1	23	23	32¾	38¼	8 x 12	30
0712	855	1,365	20.0	960	1,535	22.6	79.5	23	23	32¾	46¼	8 x 12	35

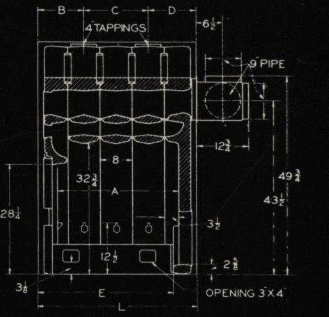
IMPORTANT: When ordering boilers with Flush Jackets specify whether Gun Type or Rotary Type Burner will be used.

See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

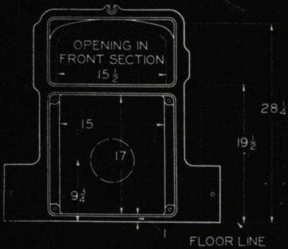
IDEAL OIL BURNING BOILER NO. 12
De Luxe Model
With Flush Jacket
Dimensions—Outlets—Inlets



FRONT VIEW

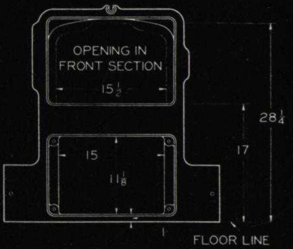


SECTION THRU BOILER



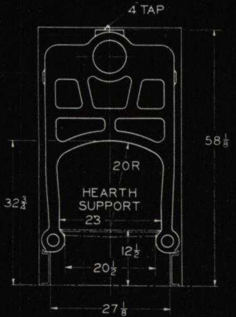
FRONT OPENINGS FOR TYPE "G"

For Gun Type Oil Burners

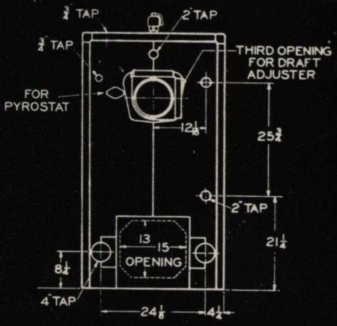


FRONT OPENINGS FOR TYPE "R"

For Rotary Type Oil Burners



CENTER SECTION



BACK VIEW

Hearth Support furnished with Rotary Type only.

IDEAL OIL BURNING BOILER NO. 12

De Luxe Model

With Flush Jacket

Dimensions—Outlets—Inlets

No. of Boiler		Number and Size of Outlets	Number and Size of Inlets	Length "L" Inches	Dimensions—Inches				
Steam	Water				A	B	C	D	E
S-0412	W-0412	2-4″	2-4″	32⅜	22¼	12⅜	8	12	26⅝
S-0512	W-0512	2-4″	2-4″	40⅜	30¼	12⅜	16	12	34⅝
S-0612	W-0612	2-4″	2-4″	48⅜	38¼	20⅜	16	12	42⅝
S-0712	W-0712	2-4″	2-4″	56⅜	46¼	20⅜	16	20	50⅝

Assemblage of Sections

No. of Boiler		Assemblages
Steam	Water	
S-0412	W-0412	F-CX-CX-BT
S-0512	W-0512	F-CX-C-CX-BT
S-0612	W-0612	F-C-CX-C-CX B
S-0712	W-0712	F-C-CX-C-CX-C-BT

F—6″ Front Section
BT—6¾″ Back Section
C—8″ Center Section
CX—8″ Center Connecting Section

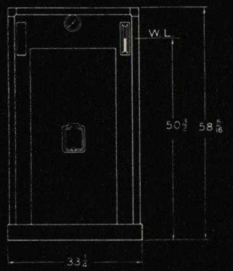
When ordering boiler with Flush Jacket specify whether Gun Type or Rotary Type Burner will be used.

Biltin Taco Heater of 40, 100 or 160-gal. tank capacity, or Biltin Tankless Taco of 180 or 210-gal. capacity, providing for Taco-Abbott system for summer and winter hot water supply, can be furnished with these boilers. See page 119.

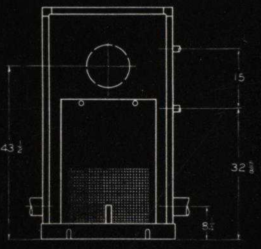
IDEAL OIL BURNING BOILER, NO. 12

De Luxe Model—With Extended Jacket

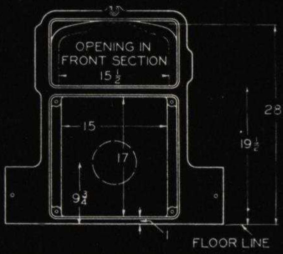
Dimensions—Outlets—Inlets



FRONT VIEW

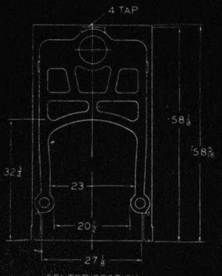


BACK VIEW

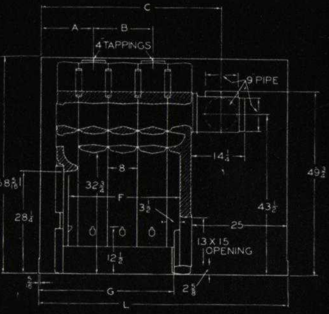


FRONT OPENINGS FOR TYPE "G"

For Gun Type Oil Burners



CENTER SECTION



SECTION THRU BOILER

IDEAL OIL BURNING BOILER NO. 12

De Luxe Model

With Extended Jacket

DIMENSIONS—OUTLETS—INLETS

No. of Boiler		No. and Size of Outlets	No. and Size of Inlets	Lgth. "L" Ins. *	Dimensions—Inches				
Steam	Water				A	B	C	F	G
S-0412	W-0412	2-4″	2-4″	58	14⅛	8	40¹¹⁄₁₆	22¼	28⅜
S-0512	W-0512	2-4″	2-4″	66	14⅛	16	48¹¹⁄₁₆	30¼	36⅜
S-0612	W-0612	2-4″	2-4″	74	22⅛	16	56¹¹⁄₁₆	38¼	44⅜
S-0712	W-0712	2-4″	2-4″	82	22⅛	16	64¹¹⁄₁₆	46¼	52⅜

*Length as indicated provides rear extension of 25 inches for concealment of Burner. If desired, 29½ inch extension can be supplied in which case "L" measurement will be 4½ inches longer. Be sure to specify which length is desired.

ASSEMBLAGE OF SECTIONS

No. of Boiler		Assemblages
Steam	Water	
S-0412	W-0412	F-CX-CX-BT
S-0512	W-0512	F-CX-C-CX-BT
S-0612	W-0612	F-C-CX-C-CX-BT
S-0712	W-0712	F-C-CX-C-CX-C-BT

F—6″ Front Section; C—8″ Center Section; BT—6¾″ Back Section; CX—8″ Center Connecting Section.

See page 119 for data on Biltin Taco Heaters.

IDEAL OIL BURNING BOILER NO. 92

De Luxe Model

For Built-In and External Water Heater—See Note Page 118

For Explanation on Boiler Selection..................	See Pages	7–9
For Guarantee and Statement on Ratings.............	See Page	8
For Performance Data and Outputs..................	See Page	133
For Data on Dimensions, and Assemblage of Sections...	See Page	137
For Data on Sundries and Trimmings	See Page	168

IDEAL OIL BURNING BOILER NO. 92—DE LUXE MODEL

RATINGS AND DATA—STEAM AND WATER

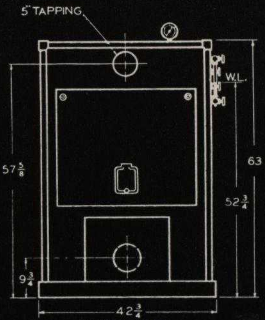
No. of Boiler	Transmission Rate 4,000 B.t.u./Sq. Ft.			Transmission Rate 4,500 B.t.u./Sq. Ft.			Heating Surface Sq. Ft.	FIREBOX DIMENSIONS				Chimney	
	Installed Radiation Boiler will carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil/Hr.	Installed Radiation Boiler will carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil/Hr.		Width, Inches		Height Inches Floor to Crown Sheet	Length Inches		
	Steam	Water		Steam	Water			At Grate Line	9″ Above Grate Line			Size Inches	Height Feet
S or W-92- 7	1,200	1,920	30.9	1,360	2,180	35.5	109.0	29	29	33	35½	12 x 12	35
S or W-92- 8	1,385	2,215	35.4	1,570	2,520	40.6	124.9	29	29	33	41½	12 x 12	35
S or W-92- 9	1,575	2,520	40.0	1,800	2,880	45.8	140.8	29	29	33	47½	12 x 16	40
S or W-92-10	1,770	2,830	44.5	2,000	3,200	51.0	156.7	29	29	33	53½	12 x 16	40
S or W-92-11	1,965	3,145	49.0	2,230	3,570	56.2	172.6	29	29	33	59½	12 x 16	45
S or W-92-12	2,165	3,465	53.5	2,460	3,940	61.3	188.5	29	29	33	65½	12 x 16	45

NOTE: Always specify whether boiler is to be used for Gun Type or Rotary Type Burner. See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

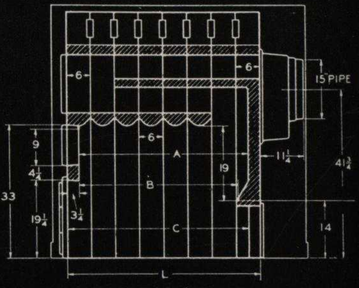
IDEAL OIL BURNING BOILER NO. 92

De Luxe Model

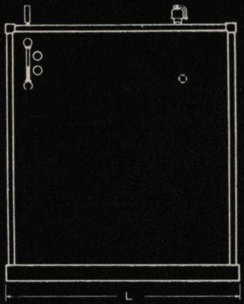
Dimensions—Outlets—Inlets



FRONT VIEW

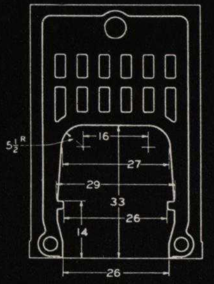


SECTION THROUGH BOILER

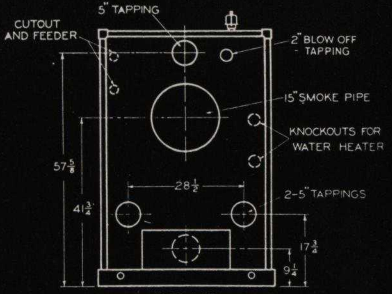


SIDE VIEW

No. Secs.	7	8	9	10	11	12	13	14
Length—"L"	57	63	69	75	81	87	93	99



FRONT SECTION REMOVED
SHOWING COMBUSTION CHAMBEP



BACK VIEW

IDEAL OIL BURNING BOILER NO. 92

De Luxe Model

Dimensions—Outlets—Inlets

Number of Boiler		Number and Size of Outlets	Number and Size of Inlets	Length "L" without Jacket	Firebox Dimensions		
Steam	Water				A	B	C
S-92-7 G or R	W-92-7 G or R	2-5″	2-5″	42″	35½	33	38¾
S-92-8 G or R	W-92-8 G or R	2-5″	2-5″	48″	41½	39	44¾
S-92-9 G or R	W-92-9 G or R	2-5″	2-5″	54″	47½	45	50¾
S-92-10 G or R	W-92-10 G or R	2-5″	2-5″	60″	53½	51	56¾
S-92-11 G or R	W-92-11 G or R	2-5″	2-5″	66″	59½	57	62¾
S-92-12 G or R	W-92-12 G or R	2-5″	2-5″	72″	65½	63	68¾

Assemblage of Sections

Number of Boiler		Assemblage
Steam	Water	
S-92-7 G or R	W-92-7 G or R	AO-4CO-UO-H
S-92-8 G or R	W-92-8 G or R	AO-BO-4CO-UO-H
S-92-9 G or R	W-92-9 G or R	AO-BO-5CO-UO-H
S-92-10 G or R	W-92-10 G or R	AO-BO-6CO-UO-H
S-92-11 G or R	W-92-11 G or R	AO-BO-7CO-UO-H
S-92-12 G or R	W-92-12 G or R	AO-BO-7CO-2UO-H

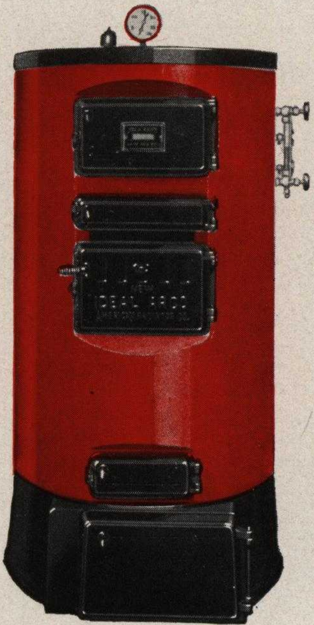
AO = 6″ Front Section.
CO = 6″ Center Section
H = 6″ Back Section.
BO = 6″ Front Center Section.
UO = 6″ Rear Center Uptake Section.

Important! When ordering always specify whether Gun Type or Rotary Type Burner will be used.

Note: On both sides of the back section a 1″ tapping is provided for Aquastat. On hot water boilers one of these tappings may be used for a water temperature limit control.

Two 1″ tappings are also provided at upper left hand corner of back of boiler for Low Water Cut-out or Water Feeder. These controls must be installed outside of jacket and connected to tappings with 1″ nipples of suitable length.

NEW IDEAL ARCO ROUND BOILER FOR OIL BURNING



Patent Pending

Tapped for External Water Heater—See Note Page 118

For Explanation on Boiler Selection	See Pages	7–9
For Guarantee and Statement on Ratings	See Page	8
For Performance Data and Outputs	See Page	137
For Data on Dimensions, and Assemblage of Sections	See Page	138
For Data on Sundries and Trimmings	See Page	168

NEW IDEAL ARCO ROUND BOILER

For Oil Burning

RATINGS AND DATA

STEAM BOILERS

No. of Boiler	Transmission Rate 5,000 B.t.u. /Sq. Ft.		Heating Surface Sq. Ft.	Firebox Dimensions				Chimney	
	Installed Radiation Boiler Will Carry Sq. Ft.	Minimum Burner Capacity Lbs. Oil /Hr.		Width, Inches		Height Inches Floor to Crown Sheet	Length Inches	Size Inches	Height Feet
				At Grate Line	9″ Above Grate Line				
S-181-O	190	5.1	14.3	18	18	34¼	.....	8x8	30
S-201-O	225	6.0	16.7	20	20	34⅞	.....	8x8	30
S-221-O	265	7.0	19.6	22	22	34	.....	8x8	30
S-222-O	305	8.0	22.8	22	22	37⅝	.....	8x12	30
S-223-O	385	9.8	28.8	22	22	37⅝	.....	8x12	35
S-252-O	360	9.5	26.7	25	25	38	.....	8x12	30
S-253-O	460	11.8	34.4	25	25	38	.....	8x12	35
S-282-O	435	11.5	32.8	28	28	36	.....	8x12	30
S-283-O	550	14.1	41.5	28	28	36	.....	12x12	35

WATER BOILERS

W-181-O	305	5.1	14.3	18	18	34¼	.....	8x8	30
W-201-O	360	6.0	16.7	20	20	34⅞	.....	8x8	30
W-221-O	425	7.0	19.6	22	22	34	.....	8x8	30
W-222-O	490	8.0	22.8	22	22	37⅝	.....	8x12	30
W-223-O	615	9.8	28.8	22	22	37⅝	.....	8x12	35
W-252-O	575	9.5	26.7	25	25	38	.....	8x12	30
W-253-O	735	11.8	34.4	25	25	38	.....	8x12	35
W-282-O	695	11.5	32.8	28	28	36	.....	8x12	30
W-283-O	880	14.1	41.5	28	28	36	.....	12x12	35

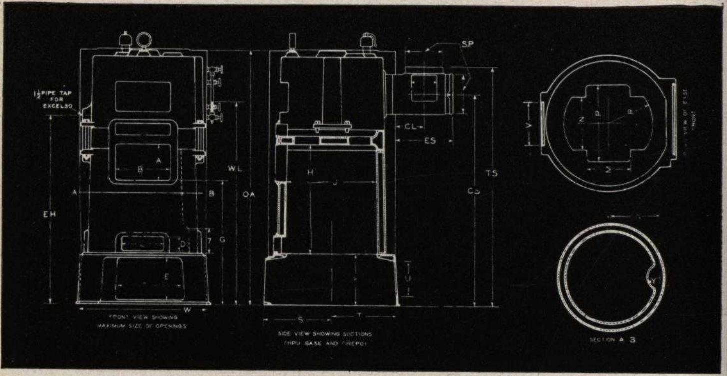
See page 118 regarding external water Heaters.

See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

NEW IDEAL ARCO ROUND BOILER

For Oil Burning

Dimensions—Outlets—Inlets


1½ PIPE TAP FOR EXCELSO
A
B
A
B
EH
D
7
G
E
W
WL
OA
FRONT VIEW SHOWING MAXIMUM SIZE OF OPENINGS
H
J
U
S
T
SIDE VIEW SHOWING SECTIONS THRU BASE AND FIREPOT
SP
CL
ES
CS
TS
V
N
P
R
M
VIEW OF BASE FRONT
K
Y
SECTION A B

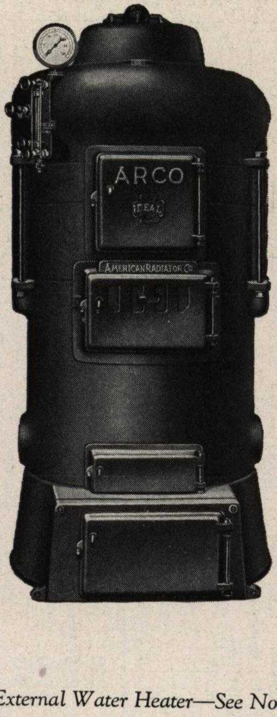
Boiler Numbers S or W	Dimensions in Inches									
	A	B	C	D	E	F	G	H	J	K
181-0	9 9/16	11 5/8	10	3 5/8	10	11 1/2	25 5/32	22 9/32	15 1/16	12
201-0	9 9/16	11 5/8	10	3 5/8	10	11 1/2	25 5/32	22 29/32	17 1/16	12
221-0	9 9/16	11 5/8	10	3 5/8	10	11 1/2	24 3/16	21 15/16	19 1/8	12
222-3-0	8 19/32	13	10	3 5/8	10	15 1/2	30 7/8	25 5/8	21 7/32	12
252-3-0	8 19/32	13	10	3 5/8	10	15 1/2	29 3/4	25 31/32	23 27/32	12
282-3-0	8 19/32	13	10	3 5/8	10	15 1/2	30 29/32	23 31/32	27 1/4	12

Boiler Numbers S or W	Dimensions in Inches									
	M	N	P	R	S	T	U	V	W	X	Y
181-0	5 7/8	11 1/2	17	8 1/2	12 13/16	12 7/8	8 1/8	9 1/2	25 5/16	..	..
201-0	6 1/2	13 1/2	19 1/16	9 1/2	13 3/4	13 7/8	8 1/8	9 1/2	27 5/16	..	..
221-0	5 1/4	12 5/8	18 1/8	10 1/2	15 1/2	15 3/16	8 1/8	9 1/2	29 7/8	..	..
222-3-0	5 1/4	12 5/8	18 1/8	10 1/2	16	15 7/16	8 1/8	10 1/2	30 7/8	11 33/64	2 35/64
252-3-0	12 1/8	16	22 1/4	12	17 3/8	17 1/16	8 1/8	10 1/2	33 5/8	12 3/4	3 3/32
282-3-0	13 5/8	17 1/4	24 1/4	13 1/2	19 3/8	19 1/16	8	13	37 5/8	14 23/32	3 3/32

Boiler Number S or W	Dimensions in Inches									
	EH	WL	OA	CL	ES	CS	TS	SP	Inlets	Outlets
181-0	36	38 5/8	47 1/2	6 1/4	11 3/4	39 1/2	45	7	2-3	1-3
201-0	36	38 5/8	47 1/2	6 1/4	11 3/4	39 1/2	45	7	2-3	1-3
221-0	35 1/2	38 5/8	49	7 1/2	14 1/2	40	46 1/2	9	2-3	1-4
222-0	39 1/4	47	55 1/4	8	14 3/4	44 1/4	51	9	2-3	1-4
223-0	44	51 3/4	60	8	14 3/4	49 1/4	55 3/4	9	2-3	1-4
252-0	40 1/4	48 1/2	56 1/2	8	14 3/4	45 1/4	51 3/4	9	2-4	1-5
253-0	45 1/4	53 1/2	61 1/2	8	14 3/4	50 1/4	56 3/4	9	2-4	1-5
282-0	41	50 3/8	58 3/8	9	17 1/4	47	55	12	2-4	1-5
283-0	46 1/4	55 1/2	63 1/2	9	17 1/4	52	60	12	2-4	1-5

IDEAL ARCO ROUND BOILER

FOR OIL BURNING



Tapped for External Water Heater—See Note Page 118

For Explanation on Boiler Selection	See Pages	7–9
For Guarantee and Statement on Ratings	See Page	8
For Performance Data and Outputs	See Pages	140–141
For Data or Dimensions and Assemblage of Sections	See Pages	142–143
For Data on Sundries and Trimmings	See Page	168

IDEAL ARCO ROUND BOILER

For Oil Burning

RATINGS AND DATA—STEAM BOILERS

No. of Boiler	Transmission Rate 4,000 B.t.u./Sq. Ft.		Transmission Rate 4,500 B.t.u./Sq. Ft.		Heating Surface Sq. Ft.	FIREBOX DIMENSIONS				Chimney	
	Installed Radiation Boiler Will Carry Sq. Ft.	Minimum Burner Capacity Lbs. Oil/Hr.	Installed Radiation Boiler Will Carry Sq. Ft.	Minimum Burner Capacity Lbs. Oil/Hr.		Width, Inches		Height Inches Floor to Crown Sheet	Length Inches	Size Inches	Height Feet
						At Grate Line	9″ Above Grate Line				
S-1705-O	210	5.7	235	6.6	19.9	17	17	39¼	......	8 x 8	30
S-1905-O	255	6.8	285	7.8	23.7	19	19	37½	......	8 x 8	30
S-2005-O	280	7.4	315	8.6	26.0	20	20	37	......	8 x 8	30
S-2205-O	305	8.2	345	9.6	28.8	22	22	39½	......	8 x 8	30
S-2505-O	380	10.2	430	11.8	35.8	25	25	40¼	......	8 x 8	35
S-2805-O	465	12.5	525	14.3	43.4	28	28	40¾	......	10 x 10	35
S-1706-O	245	6.4	275	7.3	23.1	17	17	39¼	......	8 x 8	30
S-1906-O	295	7.6	330	8.8	27.7	19	19	37½	......	8 x 8	30
S-2006-O	325	8.4	365	9.7	30.6	20	20	37	......	8 x 8	30
S-2206-O	365	9.5	410	11.0	34.3	22	22	39½	......	8 x 8	35
S-2506-O	450	11.6	505	13.4	42.3	25	25	40¼	......	8 x 8	35
S-2806-O	560	14.3	630	16.6	52.4	23	28	40¾	......	10 x 10	40

See page 118 regarding external Water Heaters.

See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

IDEAL ARCO ROUND BOILER

For Oil Burning

RATINGS AND DATA—WATER BOILERS

No. of Boiler	Transmission Rate 4,000 B.t.u./Sq. Ft.		Transmission Rate 4,500 B.t.u./Sq. Ft.		Heating Surface Sq. Ft.	FIREBOX DIMENSIONS				Chimney	
						Width, Inches					
	Installed Radiation Boiler Will Carry Sq. Ft.	Minimum Burner Capacity Lbs. Oil/Hr.	Installed Radiation Boiler Will Carry Sq. Ft.	Minimum Burner Capacity Lbs. Oil/Hr.		At Grate Line	9″ Above Grate Line	Height Inches Floor to Crown Sheet	Length Inches	Size Inches	Height Feet
W-1705-O	310	5.0	350	5.8	18.2	17	17	39¼	......	8 x 8	30
W-1905-O	370	6.1	415	7.0	21.8	19	19	37½	......	8 x 8	30
W-2005-O	405	6.6	455	7.5	23.6	20	20	37	......	8 x 8	30
W-2205-O	460	7.5	520	8.6	26.8	22	22	39½	......	8 x 8	30
W-2505-O	565	9.2	635	10.6	33.1	25	25	40¼	......	8 x 8	35
W-2805-O	690	11.2	775	13.0	40.3	28	28	40¾	......	10 x 10	35
W-1706-O	365	5.7	410	6.7	21.4	17	17	39¼	......	8 x 8	30
W-1906-O	440	6.9	495	7.9	25.8	19	19	37½	......	8 x 8	30
W-2006-O	480	7.5	540	8.6	28.2	20	20	37	......	8 x 8	30
W-2206-O	550	8.6	620	10.0	32.2	22	22	39½	......	8 x 8	35
W-2506-O	675	10.6	760	12.2	39.6	25	25	40¼	......	8 x 8	35
W-2805-O	850	13.1	955	15.1	49.2	28	28	40¾	......	10 x 10	40

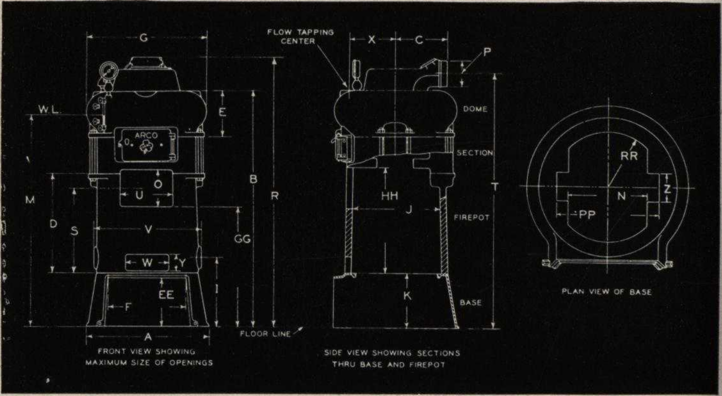
See page 118 regarding external water Heaters.

See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

IDEAL ARCO ROUND BOILER

For Oil Burning

Dimensions—Outlets—Inlets. Steam Boilers



Number of Boiler	Size of Outlets and Inlets*	Dimensions in Inches													
		A	B	C	D	E	G	I	M	P	R	S	T	V	X
S-1705-O	2½″	24¾	57¾	11¼	24¾	11	24¼	16½	51½	8	64¾	21½	61½	21¾	9⅛
S-1706-O	2½″	24¾	62¼	11¼	24¾	11	24¼	16½	56	8	69¼	21½	66	21¾	9⅛
S-1905-O	2½″	27¼	57	11¼	23½	11½	26¾	16¼	50	8	64	20½	60½	24¼	9⅝
S-1906-O	2½″	27¼	61¾	11¼	23½	11½	26¾	16¼	55	8	68¾	20½	65¼	24¼	9⅝
S-2005-O	3″	29	56¼	11¼	23½	11¼	28½	16⅛	51	8	63	20½	59½	25½	9⅞
S-2006-O	3″	29	60¾	11¼	23½	11¼	28½	16⅛	55	8	67½	20½	64⅛	25½	9⅞
S-2205-O	3″	30	58½	13¼	24½	11½	30½	16⅞	52	9	66¾	21¼	62½	27¾	10¾
S-2206-O	3″	30	63¼	13¼	24½	11½	30½	16⅞	56	9	71½	21¼	67⅜	27¾	10¾
S-2505-O	3½″	33¼	60½	13¼	25¼	12½	33¼	17	53	9	68¼	22	64¼	30½	11¾
S-2506-O	3½″	33¼	65½	13¼	25¼	12½	33¼	17	58	9	73¼	22	69¼	30½	11¾
S-2805-O	4″	36¾	62¾	14½	26¼	13¼	37	17⅛	54	10	71½	23¼	67¼	34¼	13
S-2806-O	4″	36¾	68	14½	26¼	13¼	37	17⅛	59	10	76¾	23¼	72⅜	34¼	13

*Steam boilers have one outlet and two inlets.

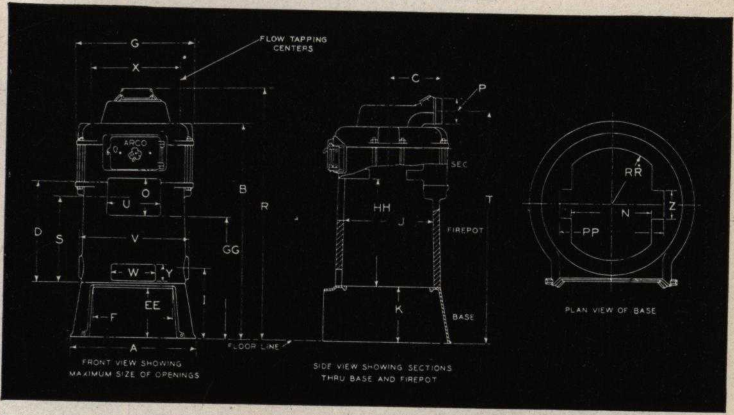
Additional Measurements

Boiler Numbers Steam or Water	Dimensions in Inches													
	O	U	W	Y	EE	F	GG	HH	J	K	Z	N	PP	RR
1705-O 1706-O	7¾	10¾	8	3	11½	12¾	30½	26¼	15	13	4¾	10	14½	7¾
1905-O 1906-O	8	11	8	3	11½	13½	29¼	24½	17½	13	5¾	12¾	16½	9
2005-O 2006-O	8	11	8	3	11½	13½	28¾	24½	19	12½	6	14	18	9¾
2205-O 2206-O	8½	12¾	9¾	3½	11¾	17¼	30	26½	21	13	6½	15¼	19½	10¼
2505-O 2506-O	8½	12¼	9¾	3½	11¾	17¼	31	27	23½	13¼	11	15¼	20¾	11¾
2805-O 2806-O	8½	15	12	4	11¾	20¼	31¾	27½	27	13¼	12¾	18	24	13¼

IDEAL ARCO ROUND BOILER

For Oil Burning

Dimensions—Outlets—Inlets. Water Boilers



Number of Boiler	Size of Outlets and Inlets*	Dimensions in Inches											
		A	B	C	D	G	I	P	R	S	T	V	X
W-1705-O	2½″	24¾	51¾	11¼	24¾	24	16½	8	59	21½	55¾	21¾	18¼
W-1706-O	2½″	24¾	56¼	11¼	24¾	24	16½	8	63½	21½	60¼	21¾	18¼
W-1905-O	2½″	27¼	50½	11¼	23½	25	16¼	8	57	20½	53¾	24¼	19¼
W-1906-O	2½″	27¼	55	11¼	23½	25	16¼	8	61½	20½	58¼	24¼	19¼
W-2005-O	3″	29	50¼	11¼	23½	27	16⅛	8	56¾	20½	53¼	25½	21
W-2006-O	3″	29	54¾	11¼	23½	27	16⅛	8	61¼	20½	57¾	25½	21
W-2205-O	3″	30	52	13¼	24½	29½	16⅞	9	59¾	21¼	55¾	27¾	23
W-2206-O	3″	30	57	13¼	24½	29½	16⅞	9	64¾	21¼	60¾	27¾	23
W-2505-O	3½″	33¼	53½	13¼	25¼	33	17	9	61¼	22	57⅜	30½	25½
W-2506-O	3½″	33¼	58¾	13¼	25¼	33	17	9	66½	22	62⅝	30½	25½
W-2805-O	4″	36¾	55¾	14½	26¼	37	17⅛	10	64½	23¼	60	34¼	29½
W-2806-O	4″	36¾	61	14½	26¼	37	17⅛	10	69¾	23¼	65¼	34¼	29½

*Water boilers have two outlets and two inlets.

Additional Measurements

Boiler Numbers Steam or Water	Dimensions in Inches													
	O	U	W	Y	EE	F	GG	HH	J	K	Z	N	PP	RR
1705-O 1706-O	7¾	10¾	8	3	11½	12¾	30½	26¼	15	13	4¾	10	14½	7¾
1905-O 1906-O	8	11	8	3	11½	13½	29¼	24½	17½	13	5¾	12¾	16½	9
2005-O 2006-O	8	11	8	3	11½	13½	28¾	24½	19	12½	6	14	18	9¾
2205-O 2206-O	8½	12¾	9¾	3½	11¾	17¼	30	26½	21	13	6½	15¼	19½	10¼
2505-O 2506-O	8½	12¼	9¾	3½	11¾	17¼	31	27	23½	13¼	11	15¼	20¾	11¾
2805-O 2806-O	8½	15	12	4	11¾	20¼	31¾	27½	27	13¼	12¾	18	24	3¼

IDEAL REDFLASH BOILER

FOR OIL BURNING

No. 1 Size

No. 2 Size

No. 3 Size

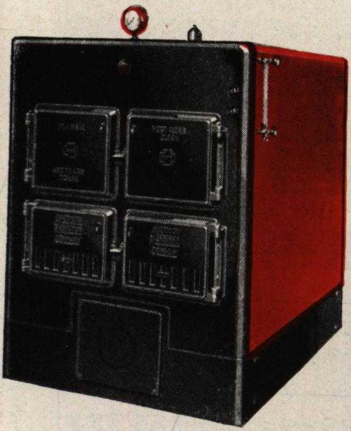
Patents Pending

Tapped for External Water Heater—See Note Page 118

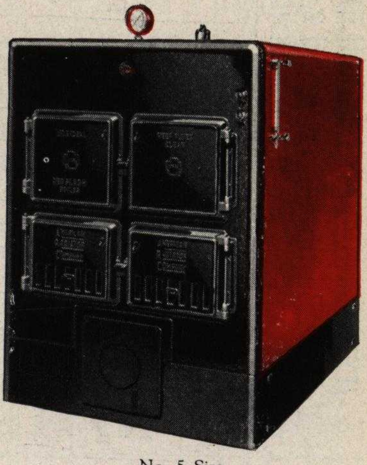
For Explanation on Boiler Selection	See Pages	7–9
For Guarantee and Statement on Ratings	See Page	8
For Performance Data and Outputs	See Pages	146–147
For Data on Dimensions, and Assemblage of Sections	See Pages	148–150
For Data on Sundries and Trimmings	See Page	168

IDEAL REDFLASH BOILER

FOR OIL BURNING



No. 4 Size



No. 5 Size

Patents Pending

Tapped for External Water Heater—See Note Page 118

For Explanation on Boiler Selection	See Pages	7–9
For Guarantee and Statement on Ratings	See Page	8
For Performance Data and Outputs	See Page	147
For Data on Dimensions, and Assemblage of Sections	See Pages	151–152
For Data on Sundries and Trimmings	See Page	163

IDEAL REDFLASH BOILERS
For Oil Burning—No. 1 and 2 Size
RATINGS AND DATA—STEAM AND WATER

No. of Boiler	Transmission Rate 4,000 B.t.u./Sq. Ft.			Transmission Rate 4,500 B.t.u./Sq. Ft.			Heating Surface Sq. Ft.	FIREBOX DIMENSIONS				Chimney	
	Installed Radiation Boiler will carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil/Hr.	Installed Radiation Boiler will carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil/Hr.		Width, Inches		Height Inches Floor to Crown Sheet	Length Inches		
	Steam	Water		Steam	Water			At Grate Line	9″ Above Grate Line			Size Inches	Height Feet
S or W-1- 5-O	235	380	6.2	265	430	7.1	21.9	15½	18	32	15½	8 x 8	30
S or W-1- 6-O	270	435	7.1	305	490	8.1	25.3	15½	18	32	19½	8 x 8	30
S or W-1- 7-O	320	515	8.4	360	580	9.6	30.0	15½	18	32	23½	8 x 8	30
S or W-1- 8-O	355	570	9.4	400	640	10.7	33.4	15½	18	32	27½	8 x 8	30
S or W-1- 9-O	405	650	10.7	455	730	12.2	38.0	15½	18	32	31½	8 x 12	30
S or W-1-10-O	440	705	11.7	495	795	13.3	41.4	15½	18	32	35½	8 x 12	35
S or W-1-11-O	490	785	13.0	550	865	14.8	46.1	15½	18	32	39½	8 x 12	35
S or W-2- 6-O	525	840	13.9	590	945	15.8	49.2	24¾	27	35	24½	8 x 12	30
S or W-2- 7-O	610	975	16.1	685	1,100	18.4	57.1	24¾	27	35	29½	12 x 12	30
S or W-2- 8-O	690	1,105	18.3	780	1,250	20.8	64.9	24¾	27	35	34½	12 x 12	35
S or W-2- 9-O	785	1,255	20.6	885	1,420	23.4	72.9	24¾	27	35	39½	12 x 12	35
S or W-2-10-O	880	1,410	22.8	990	1,580	26.0	80.8	24¾	27	35	44½	12 x 12	40
S or W-2-11-O	965	1,545	25.1	1,090	1,750	28.5	88.8	24¾	27	35	49½	12 x 16	40
S or W-2-12-O	1,055	1,690	27.3	1,205	1,930	31.1	96.7	24¾	27	35	54½	12 x 16	40
S or W-2-13-O	1,150	1,840	29.5	1,300	2,080	33.6	104.6	24¾	27	35	59½	12 x 16	40

See page 118 regarding external water Heaters.

See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

IDEAL REDFLASH BOILERS

For Oil Burning. Nos. 3, 4 and 5 Size

RATINGS AND DATA—STEAM AND WATER

No. of Boiler	Transmission Rate 5,000 B.t.u. /Sq. Ft.			Heating Surface Sq. Ft.	Firebox Dimensions				Chimney	
	Installed Radiation Boiler Will Carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil/Hr.		Width, Inches		Height Inches Floor to Crown Sheet	Length Inches	Size Inches	Height Feet
	Steam	Water			At Grate Line	9″ Above Grate Line				
S or W-3- 8-O	1,480	2,370	38.0	105.5	32	36	35	41½	12x16	40
S or W-3- 9-O	1,680	2,690	43.0	119.2	32	36	35	47½	12x16	45
S or W-3-10-O	1,895	3,030	48.0	132.9	32	36	35	53½	16x16	45
S or W-3-11-O	2,110	3,375	53.0	146.6	32	36	35	59½	16x16	45
S or W-3-12-O	2,295	3,670	57.5	159.8	32	36	35	65½	16x16	45
S or W-3-13-O	2,520	4,030	62.5	173.6	32	36	35	71½	16x16	50
S or W-3-14-O	2,735	4,375	67.5	187.3	32	36	35	77½	16x20	50
S or W-4- 9-O	2,450	3,920	61.0	169	40	44	34	55⅜	16x16	45
S or W-4-10-O	2,760	4,415	68.0	189	40	44	34	62⅜	16x16	50
S or W-4-11-O	3,070	4,910	75.0	208	40	44	34	69⅜	16x20	50
S or W-4-12-O	3,365	5,385	82.0	228	40	44	34	76⅜	16x20	55
S or W-4-13-O	3,685	5,895	89.0	248	40	44	34	83⅜	16x20	55
S or W-4-14-O	3,980	6,370	96.0	267	40	44	34	90⅜	20x20	55
S or W-5-10-O	3,935	6,295	95.0	265	48	51	33½	71⁵⁄₁₆	20x20	50
S or W-5-11-O	4,365	6,985	105.0	293	48	51	33½	79⁵⁄₁₆	20x20	55
S or W-5-12-O	4,920	7,870	119.0	331	48	51	33½	87⁵⁄₁₆	20x20	55
S or W-5-13-O	5,345	8,550	129.0	359	48	51	33½	95⁵⁄₁₆	20x20	60
S or W-5-14-O	5,750	9,200	139.0	386	48	51	33½	103⁵⁄₁₆	20x24	60
S or W-5-15-O	6,170	9,870	149.0	415	48	51	33½	111⁵⁄₁₆	20x24	65
S or W-5-16-O	6,570	10,510	159.0	442	48	51	33½	119⁵⁄₁₆	20x24	65
S or W-5-17-O	6,970	11,150	169.0	469	48	51	33½	127⁵⁄₁₆	20x24	70

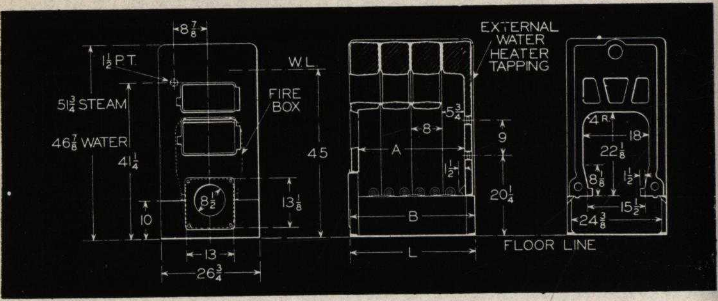
See page 118 regarding external water Heaters.

See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

No. 1 Ideal Redflash Boiler—Steam and Water

For Oil Burning

Dimensions—Outlets—Inlets



Tapped 1½" For External Water Heater. (See note on page 118).

Number of Boiler		"L" Length Inches	"A"	"B"	Outlets Number and Size	Inlets Number And Size	
Steam	Water					Steam	Water
1-S-5-O	1-W-5-O	20⁵⁄₁₆	15½	19¾	1-3"	2-2"	2-3"
1-S-6-O	1-W-6-O	24⁵⁄₁₆	19½	23¾	2-3"	2-2"	2-3"
1-S-7-O	1-W-7-O	28⁵⁄₁₆	23½	27¾	2-3"	2-2"	2-3"
1-S-8-O	1-W-8-O	32⁵⁄₁₆	27½	31¾	2-3"	2-2"	2-3"
1-S-9-O	1-W-9-O	36⁵⁄₁₆	31½	35¾	2-3"	2-2"	2-3"
1-S-10-O	1-W-10-O	40⁵⁄₁₆	35½	39¾	3-3"	2-2"	2-3"
1-S-11-O	1-W-11-O	44⁵⁄₁₆	39½	43¾	3-3"	2-2"	2-3"

ASSEMBLAGE OF SECTIONS

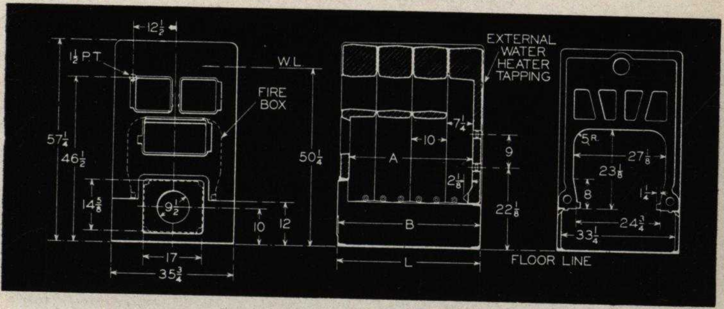
Number of Boiler		Assemblage
Steam	Water	
1-S-5-O	1-W-5-O	AO-FC-BX
1-S-6-O	1-W-6-O	FO-CX-BX
1-S-7-O	1-W-7-O	AO-FCX-C-BX
1-S-8-O	1-W-8-O	FO-CX-C-BX
1-S-9-O	1-W-9-O	AO-FC-CX-C-BX
1-S-10-O	1-W-10-O	FO-CX-C-CX-BX
1-S-11-O	1-W-11-O	AO-FCX-C-CX-C-BX

AO = 4" Front Section.
FO = 8" Front Section.
FC = 8" Front Center Section.
FCX = 8" Front Center Connecting Section.
C = 8" Center Section.
CX = 8" Center Connecting Section
BX = 8" Back Connecting Section.

No. 2 Ideal Redflash Boiler—Steam or Water

For Oil Burning

Dimensions—Outlets—Inlets



Tapped 1½″ For External Water Heater. (*See note on page* 118).

Number of Boiler		"L" Length Inches	"A"	"B"	Outlets Number and Size	Inlets Number and Size
Steam	Water					
2-S-6-O	2-W-6-O	30¼	24½	29⁹⁄₁₆	2-4″	2-4″
2-S-7-O	2-W-7-O	35¼	29½	34⁹⁄₁₆	2-4″	2-4″
2-S-8-O	2-W-8-O	40¼	34½	39⁹⁄₁₆	2-4″	2-4″
2-S-9-O	2-W-9-O	45¼	39½	44⁹⁄₁₆	2-4″	2-4″
2-S-10-O	2-W-10-O	50¼	44½	49⁹⁄₁₆	2-4″	2-4″
2-S-11-O	2-W-11-O	55¼	49½	54⁹⁄₁₆	3-4″	2-4″
2-S-12-O	2-W-12-O	60¼	54½	59⁹⁄₁₆	3-4″	2-4″
2-S-13-O	2-W-13-O	65¼	59½	64⁹⁄₁₆	4-4″	2-4″

ASSEMBLAGE OF SECTIONS

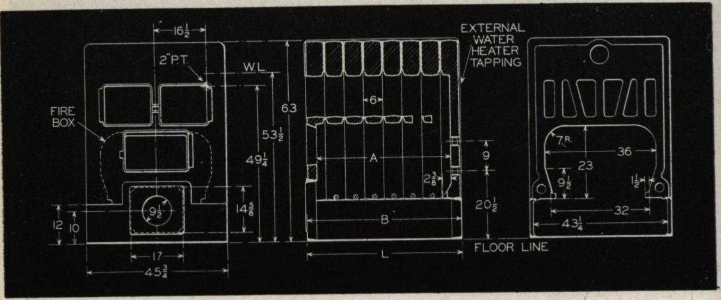
Number of Boiler		Assemblage
Steam	Water	
2-S-6-O	2-W-6-O	FO-CX-BX
2-S-7-O	2-W-7-O	AO-FCX-C-BX
2-S-8-O	2-W-8-O	FO-CX-C-BX
2-S-9-O	2-W-9-O	AO-FCX-C-C-BX
2-S-10-O	2-W-10-O	FO-CX-C-C-BX
2-S-11-O	2-W-11-O	AO-FCX-C-CX-C-BX
2-S-12-O	2-W-12-O	FO-CX-C-C-RCX-BX
2-S-13-O	2-W-13-O	AO-FCX-C-CX-C-RCX-BX

AO = 5″ Front Section.
FO = 10″ Front Section.
FCX = 10″ Front Center Connecting Section.
C = 10″ Center Section.
CX = 10″ Center Connecting Section.
RCX = 10″ Rear Center Connecting Section.
BX = 10″ Back Connecting Section.

No. 3 Ideal Redflash Boiler—Steam or Water

For Oil Burning

Dimensions—Outlets—Inlets



Tapped 2″ For External Water Heater. (See note on page 118).

Number of Boiler		"L" Length Inches	"A"	"B"	Outlets Number and Size	Inlets Number and Size
Steam	Water					
3-S-8-O	3-W-8-O	48¼	41½	47½	3-4″	2-5″
3-S-9-O	3-W-9-O	54¼	47½	53½	4-4″	2-5″
3-S-10-O	3-W-10-O	60¼	53½	59½	4-4″	2-5″
3-S-11-O	3-W-11-O	66¼	59½	65½	4-4″	2-5″
3-S-12-O	3-W-12-O	72¼	65½	71½	5-4″	2-5″
3-S-13-O	3-W-13-O	78¼	71½	77½	5-4″	2-5″
3-S-14-O	3-W-14-O	84¼	77½	83½	6-4″	2-5″

ASSEMBLAGE OF SECTIONS

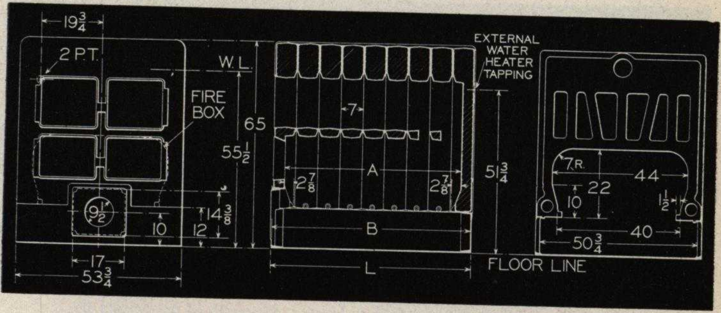
Number of Boiler	ASSEMBLAGE
3-S or W-8-O	FO-FCX-C-C-CX-RC-RCX-B
3-S or W-9-O	FO-FCX-C-CX-C-CX-RC-RCX-B
3-S or W-10-O	FO-FCX-C-CX-C-CX-C-RCX-RC-B
3-S or W-11-O	FO-FCX-C-CX-C-C-CX-C-RC-RCX-B
3-S or W-12-O	FO-FCX-C-C-CX-C-CX-C-CX-RC-RCX-B
3-S or W-13-O	FO-FCX-C-C-CX-C-C-CX-C-CX-RC-RCX-B
3-S or W-14-O	FO-FCX-C-CX-C-CX-C-C-CX-C-CX-RC-RCX-B

FO = 6″ Front Section.
FCX = 6″ Front Center Connecting Section.
C = 6″ Center Section.
CX = 6″ Center Connecting Section.
RC = 6″ Rear Center Section.
RCX = 6″ Rear Center Connecting Section.
B = 6″ Back Section.

No. 4 Ideal Redflash Boiler—Steam or Water

For Oil Burning

Dimensions—Outlets—Inlets



Tapped 2″ For External Water Heater. (*See note on page* 118).

Number of Boiler		"L" Length Inches	"A"	"B"	Outlets Number and Size	Inlets Number and Size
Steam	Water					
4-S-9-O	4-W-9-O	63 7/16	55 3/8	62 11/16	4-4″	2-6″
4-S-10-O	4-W-10-O	70 7/16	62 3/8	69 11/16	4-4″	2-6″
4-S-11-O	4-W-11-O	77 7/16	69 3/8	76 11/16	5-4″	2-6″
4-S-12-O	4-W-12-O	84 7/16	76 3/8	83 11/16	5-4″	2-6″
4-S-13-O	4-W-13-O	91 7/16	83 3/8	90 11/16	6-4″	2-6″
4-S-14-O	4-W-14-O	98 7/16	90 3/8	97 11/16	6-4″	2-6″

ASSEMBLAGE OF SECTIONS

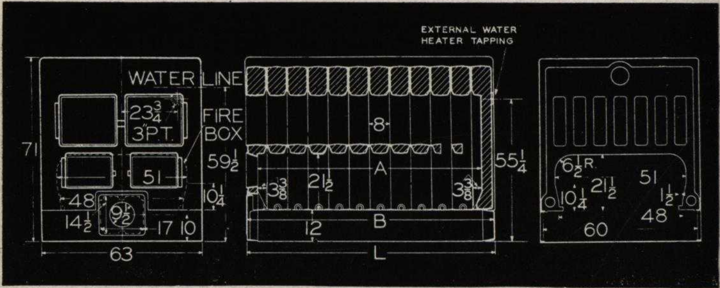
Number of Boiler	Assemblage
4-S or W-9-O	FO-FCX-C-CX-C-CX-RC-RCX-B
4-S or W-10-O	FO-FCX-C-CX-C-CX-C-RCX-RC-B
4-S or W-11-O	FO-FCX-C-CX-C-CX-C-CX-RC-RCX-B
4-S or W-12-O	FO-FCX-C-CX-C-CX-C-CX-RC-RCX-RC-B
4-S or W-13-O	FO-FCX-C-CX-C-CX-C-CX-C-RCX-RC-RCX-B
4-S or W-14-O	FO-FCX-C-CX-C-CX-C-CX-C-CX-RC-RCX-RC-B

FO = 7″ Front Section.
FCX = 7″ Front Center Connecting Section.
C = 7″ Center Section.
CX = 7″ Center Connecting Section.
RC = 7″ Rear Center Section.
RCX = 7″ Rear Center Connecting Section.
B = 7″ Back Section.

No. 5 Ideal Redflash Boiler—Steam or Water

For Oil Burning

Dimensions—Outlets—Inlets



Tapped 3" For External Water Heater. (See note on page 118).

Number of Boiler		"L" Length Inches	"A"	"B"	Outlets Number and Size	Inlets Number and Size
Steam	Water					
5-S-10-O	5-W-10-O	80⅞	71 5/16	80⅛	4-5"	2-6"
5-S-11-O	5-W-11-O	88⅞	79 5/16	88⅛	5-5"	2-6"
5-S-12-O	5-W-12-O	96⅞	87 5/16	96⅛	5-5"	2-6"
5-S-13-O	5-W-13-O	104⅞	95 5/16	104⅛	5-5"	2-6"
5-S-14-O	5-W-14-O	112⅞	103 5/16	112⅛	6-5"	2-6"
5-S-15-O	5-W-15-O	120⅞	111 5/16	120⅛	6-5"	2-6"
5-S-16-O	5-W-16-O	128⅞	119 5/16	128⅛	7-5"	2-6"
5-S-17-O	5-W-17-O	136⅞	127 5/16	136⅛	7-5"	2-6"

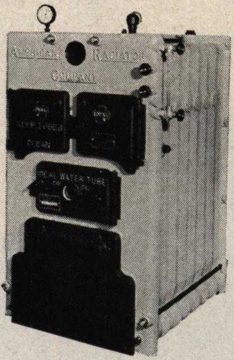
ASSEMBLAGE OF SECTIONS

Number of Boiler	Assemblage
5-S or W-10-O	FO-FCX-C-CX-C-C-CX-RC-RCX-B
5-S or W-11-O	FO-FCX-C-CX-C-CX-C-CX-RC-RCX-B
5-S or W-12-O	FO-FCX-C-CX-C-CX-C-CX-C-RCX-RC-B
5-S or W-13-O	FO-FCX-C-CX-C-C-CX-C-CX-C-RC-RCX-B
5-S or W-14-O	FO-FCX-C-CX-C-CX-C-C-CX-C-RCX-RC-RCX-B
5-S or W-15-O	FO-FCX-C-CX-C-C-CX-C-CX-C-C-RCX-RC-RCX-B
5-S or W-16-O	FO-FCX-C-CX-C-CX-C-CX-C-CX-C-RCX-RC-RCX-RC-B
5-S or W-17-O	FO-FCX-C-CX-C-C-CX-C-CX-C-C-RCX-RC-RCX-RC-RCX-B

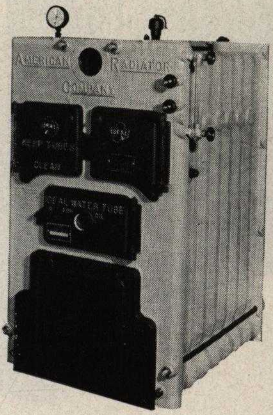
FO = 8" Front Section.
FCX = 8" Front Center Connecting Section.
C = 8" Center Section.
CX = 8" Center Connecting Section.
RC = 8" Rear Center Section.
RCX = 8" Rear Center Connecting Section.
B = 8" Back Section.

IDEAL WATER TUBE BOILERS FOR OIL BURNING

23-INCH—29-INCH SERIES



23-Inch Ideal Water Tube Oil Burning Boiler



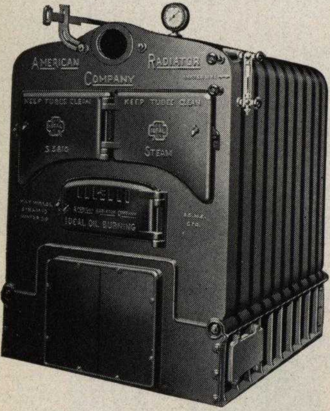
29-Inch Ideal Water Tube Oil Burning Boiler

For External Water Heater Tappings—See Note Page 118

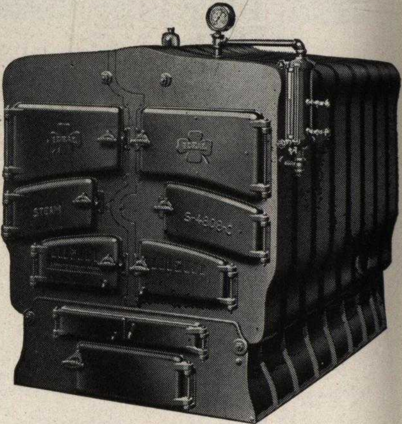
For Explanation on Boiler Selection............... See Pages 7–9
For Guarantee and Statement ....See Page 8
For Performance Data and Outputs................See Page 156
For Data on Dimensions, and Assemblage of Sections See Pages 158–161
For Data on Sundries and Trimmings.............See Page 168

IDEAL WATER TUBE BOILERS FOR OIL BURNING

36-inch—48-inch Series



36-Inch Ideal Water Tube Oil Burning Boiler



48-Inch Ideal Water Tube Oil Burning Boiler

For External Water Heater Tappings—See Note Page 118

For Explanation on Boiler Selection	See Pages	7–9
For Guarantee and Statement on Ratings	See Page	8
For Performance Data and Outputs	See Page	157
For Data on Dimensions, and Assemblage of Sections	See Pages	162–165
For Data on Sundries and Trimmings	See Page	168

IDEAL WATER TUBE BOILERS FOR OIL BURNING

79-INCH SERIES

79-Inch Ideal Water Tube Oil Burning Boiler

For External Water Heater Tappings—See Note Page 118

For Explanation on Boiler Selection...............See Pages 7-9
For Guarantee and Statement on Ratings.........See Page 8
For Performance Data and Outputs...............See Page 157
For Data on Dimensions, and Assemblage of Sections See Pages 166-167
For Data on Sundries and Trimmings.............See Page 168

IDEAL WATER TUBE BOILERS

For Oil Burning—23 and 29 Inch

RATINGS AND DATA—STEAM AND WATER

No. of Boiler	Transmission Rate 4,000 B.t.u. /Sq. Ft.			Transmission Rate 4,500 B.t.u. /Sq. Ft.			Heating Surface Sq. Ft.	FIREBOX DIMENSIONS				Chimney	
	Installed Radiation Boiler will carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil /Hr.	Installed Radiation Boiler will carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil /Hr.		Width, Inches		Height Inches Floor to Crown Sheet	Length Inches		
	Steam	Water		Steam	Water			At Grate Line	9″ Above Grate Line			Size Inches	Height Feet
S or W-0623	565	905	14.4	630	1,010	16.6	52.6	23	23	30	20½	8 x 8	30
S or W-0723	655	1,050	16.8	740	1,180	19.3	61.3	23	23	30	24½	8 x 8	30
S or W-0823	750	1,200	19.2	850	1,360	22.1	70.0	23	23	30	28½	8 x 12	30
S or W-0923	845	1,350	21.6	960	1,540	24.8	78.7	23	23	30	32½	8 x 12	35
S or W-1023	945	1,510	23.9	1,070	1,710	27.5	87.4	23	23	30	36½	8 x 12	35
S or W-1123	1,050	1,680	26.4	1,200	1,920	30.4	96.1	23	23	30	40½	12 x 12	35
S or W-1223	1,155	1,850	28.8	1,300	2,080	33.1	104.8	23	23	30	44½	12 x 12	35
S or W-0729	1,200	1,920	29.8	1,360	2,180	34.3	109.0	29	29	33	35½	12 x 12	35
S or W-0829	1,385	2,215	34.2	1,570	2,520	39.4	124.9	29	29	33	41½	12 x 12	35
S or W-0929	1,575	2,520	38.6	1,790	2,860	44.4	140.8	29	29	33	47½	12 x 16	40
S or W-1029	1,770	2,830	43.0	2,000	3,200	50.5	156.7	29	29	33	53½	12 x 16	40
S or W-1129	1,965	3,145	47.3	2,220	3,550	54.5	172.6	29	29	33	59½	12 x 16	45
S or W-1229	2,165	3,465	51.6	2,460	3,940	59.5	188.5	29	29	33	65½	12 x 16	45

See page 118 regarding External Water Heaters.

See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

IDEAL WATER TUBE BOILERS
For Oil Burning
36, 48 and 79 Inch
RATINGS AND DATA—STEAM AND WATER

No. of Boiler	Transmission Rate 5,000 B.t.u./Sq. Ft.			Heating Surface Sq. Ft.	FIREBOX DIMENSIONS				Chimney	
	Installed Radiation Boiler Will Carry Sq. Ft.		Minimum Burner Capacity Lbs. Oil/Hr.		Width, Inches		H't In. Floor to Cr'n Sheet	Length Inches	Size Inches	Height Feet
	Steam	Water			At Grate Line	9″ A've Grate Line				
S or W-0836	2,640	4,225	64.4	180.4	36	36	38½	41½	16x16	40
S or W-0936	3,000	4,800	72.6	203.4	36	36	38½	47½	16x16	45
S or W-1036	3,340	5,345	80.7	226.4	36	36	38½	53½	16x16	50
S or W-1136	3,715	5,945	89.0	249.4	36	36	38½	59½	16x20	50
S or W-1236	4,055	6,485	97.2	272.4	36	36	38½	65½	16x20	55
S or W-1336	4,395	7,035	100.6	295.4	36	36	38½	71½	20x20	60
S or W-1436	4,740	7,585	113.8	318.4	36	36	38½	77½	20x20	60
S or W-1536	5,080	8,125	121.9	341.4	36	36	38½	83½	20x20	65
S or W-4808-O	4,965	7,945	119.1	334	48	48	37¾	74¾	20x24	60
S or W-4809-O	5,645	9,035	136.0	379	48	48	37¾	85½	20x24	65
S or W-4810-O	6,330	10,130	152.0	426	48	48	37¾	96¼	24x24	70
S or W-4811-O	7,020	11,230	169.0	472	48	48	37¾	107	24x24	75
S or W-4812-O	7,700	12,320	185.0	517	48	48	37¾	117¾	24x24	80
S or W-4813-O	8,380	13,410	201.5	564	48	48	37¾	128½	24x28	85
S or W-4814-O	9,080	14,530	218.4	610	48	48	37¾	139¼	24x28	90
S or W-7909-O	7,295	11,675	175.0	490	78¾	78¾	41	53½	24x24	80
S or W-7910-O	8,115	12,985	195.0	546	78¾	78¾	41	59½	24x24	85
S or W-7911-O	8,935	14,295	214.0	601	78¾	78¾	41	65½	24x28	90
S or W-7912-O	9,765	15,625	234.0	656	78¾	78¾	41	71½	24x28	95
S or W-7913-O	10,585	16,935	254.0	711	78¾	78¾	41	77½	24x28	100
S or W-7914-O	11,415	18,265	274.0	767	78¾	78¾	41	83½	28x28	105
S or W-7915-O	12,235	19,575	294.0	822	78¾	78¾	41	89½	28x28	110
S or W-7916-O	13,065	20,905	313.0	877	78¾	78¾	41	95½	28x28	115
S or W-7917-O	13,885	22,215	334.0	933	78¾	78¾	41	101½	28x28	120

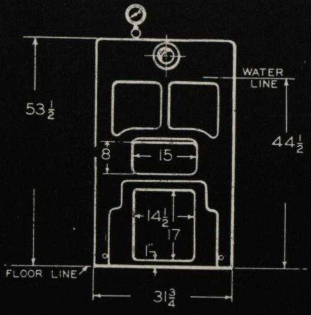
See page 118 regarding external water Heaters.

See page 7 for Boiler Selection. For guarantee and statement regarding outputs see page 8.

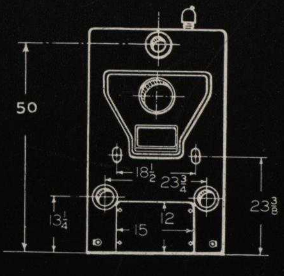
23-Inch Ideal Water Tube Boiler—Steam or Water

For Oil Burning

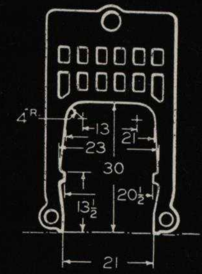
Dimensions



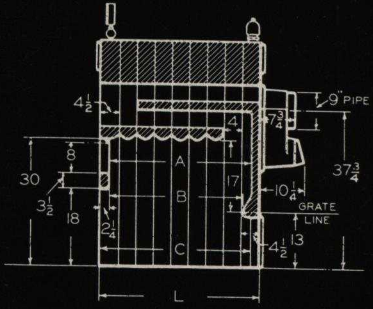
FRONT VIEW SHOWING MAXIMUM SIZE OF OPENINGS



REAR VIEW



FRONT SECTION REMOVED SHOWING COMBUSTION CHAMBER



SECTION THROUGH BOILER

23-Inch Ideal Water Tube Boiler—Steam or Water

For Oil Burning

Dimensions—Outlets—Inlets

Number of Boiler		Number and Size of Outlets	Number and Size of Inlets	Length "L"	Firebox Dimensions		
Steam	Water				A	B	C
S-0623	W-0623	2-4″	2-4″	25″	20½	18½	22¾
S-0723	W-0723	2-4″	2-4″	29″	24½	22½	26¾
S-0823	W-0823	2-4″	2-4″	33″	28½	26½	30¾
S-0923	W-0923	2-4″	2-4″	37″	32½	30½	34¾
S-1023	W-1023	2-4″	2-4″	41″	36½	34½	38¾
S-1123	W-1123	2-4″	2-4″	45″	40½	38½	42¾
S-1223	W-1223	2-4″	2-4″	49″	44½	42½	46¾

ASSEMBLAGE OF SECTIONS

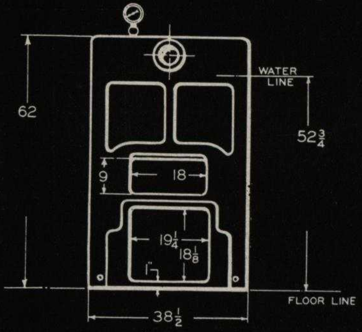
Number of Boiler		Assemblage
Steam	Water	
S-0623	W-0623	AO-3CO-UO-H
S-0723	W-0723	AO-4CO-UO-H
S-0823	W-0823	AO-BO-4CO-UO-H
S-0923	W-0923	AO-BO-5CO-UO-H
S-1023	W-1023	AO-BO-5CO-2UO-H
S-1123	W-1123	AO-BO-6CO-2UO-H
S-1223	W-1223	AO-BO-7CO-2UO-H

AO = 4″ Front Section.
BO = 4½″ Front Center Section.
CO = 4½″ Center Section.
UO = 4″ Rear Center Uptake Section.
H = 4½″ Back Section.

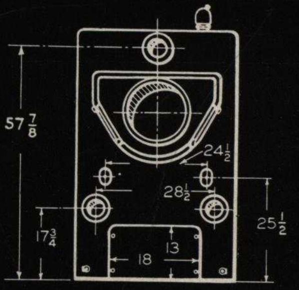
29-Inch Ideal Water Tube Boiler—Steam or Water

For Oil Burning

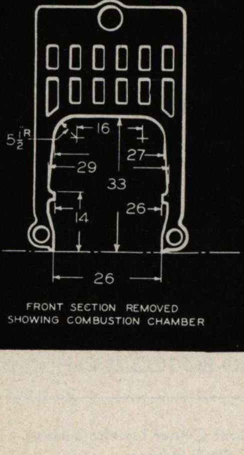
Dimensions



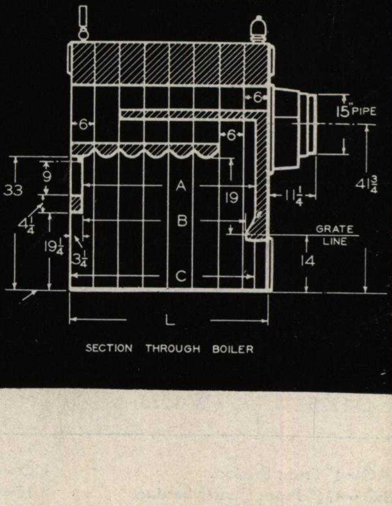
FRONT VIEW SHOWING MAXIMUM SIZE OF OPENINGS



REAR VIEW



FRONT SECTION REMOVED SHOWING COMBUSTION CHAMBER



SECTION THROUGH BOILER

29-Inch Ideal Water Tube Boiler—Steam or Water

For Oil Burning

Dimensions—Outlets—Inlets

Number of Boiler		Number and Size of Outlets	Number and Size of Inlets	Length "L"	Firebox Dimensions		
Steam	Water				A	B	C
S-0729	W-0729	2-5″	2-5″	42″	35½	33	38¾
S-0829	W-0829	2-5″	2-5″	48″	41½	39	44¾
S-0929	W-0929	2-5″	2-5″	54″	47½	45	50¾
S-1029	W-1029	2-5″	2-5″	60″	53½	51	56¾
S-1129	W-1129	2-5″	2-5″	66″	59½	57	62¾
S-1229	W-1229	2-5″	2-5″	72″	65½	63	68¾

ASSEMBLAGE OF SECTIONS

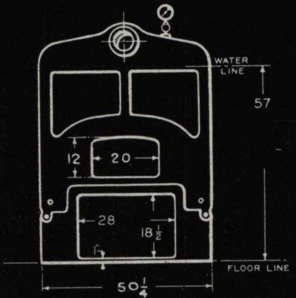
Number of Boiler		Assemblage
Steam	Water	
S-0729	W-0729	AO-4CO-UO-H
S-0829	W-0829	AO-BO-4CO-UO-H
S-0929	W-0929	AO-BO-5CO-UO-H
S-1029	W-1029	AO-BO-6CO-UO-H
S-1129	W-1129	AO-BO-7CO-UO-H
S-1229	W-1229	AO-BO-7CO-2UO-H

AO = 6″ Front Section.
BO = 6″ Front Center Section.
CO = 6″ Center Section.
UO = 6″ Rear Center Uptake Section.
H = 6″ Back Section.

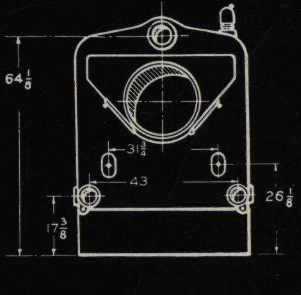
36-Inch Ideal Water Tube Boiler—Steam and Water

For Oil Burning

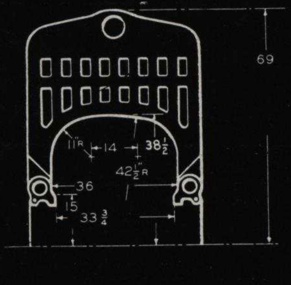
Dimensions



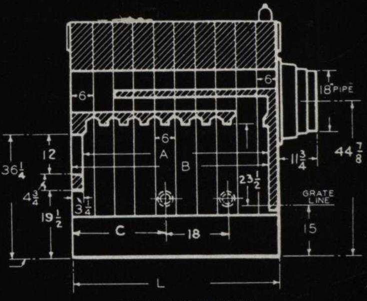
FRONT VIEW SHOWING MAXIMUM SIZE OF OPENINGS



REAR VIEW



FRONT SECTION REMOVED SHOWING COMBUSTION CHAMBER



SECTION THROUGH BOILER

36-Inch Ideal Water Tube Boiler—Steam and Water

For Oil Burning

Dimensions—Outlets—Inlets

Number of Boilers		Number and Size of Outlets		Number and Size of Inlets		Length "L"	Firebox Dimensions		
Steam	Water	Steam	Water	Steam	Water		A	B	C
S-0836	W-0836	2-6″	2-6″	2-4″	2-4″, 2-3½″	48″	41½	44¾	27
S-0936	W-0936	2-6″	2-6″	2-4″	2-4″, 2-3½″	54″	47½	50¾	27
S-1036	W-1036	2-6″	2-6″	2-4″	2-4″, 2-3½″	60″	53½	56¾	33
S-1136	W-1136	2-6″	2-6″	2-4″	2-4″, 2-3½″	66″	59½	62¾	33
S-1236	W-1236	2-6″	2-6″	2-4″	2-4″, 4-3½″	72″	65½	68¾	27
S-1336	W-1336	2-6″	2-6″	2-4″	2-4″, 4-3½″	78″	71½	74¾	27
S-1436	W-1436	2-6″	2-6″	2-4″	2-4″, 4-3½″	84″	77½	80¾	33
S-1536	W-1536	2-6″	2-6″	2-4″	2-4″, 4-3½″	90″	83½	86¾	39

ASSEMBLAGE OF SECTIONS

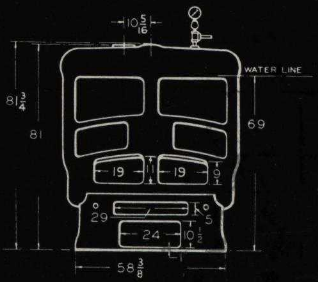
Number of Boiler Steam	Assemblage	Number of Boiler Water	Assemblage
S-0836	AO-CTO-4CO-UO-H	W-0836	AO-CTO-2CO-DO-CO-UO-H
S-0936	AO-BO-5CO-UO-H	W-0936	AO-BO-2CO-DO-2CO-UO-H
S-1036	AO-BO-6CO-UO-H	W-1036	AO-BO-3CO-DO-2CO-UO-H
S-1136	AO-BO-7CO-UO-H	W-1136	AO-BO-3CO-DO-3CO-UO-H
S-1236	AO-BO-8CO-UO-H	W-1236	AO-BO-2CO-DO-2CO-DO-2CO-UO-H
S-1336	AO-2BO-7CO-2UO-H	W-1336	AO-2BO-CO-DO-2CO-DO-2CO-2UO-H
S-1436	AO-2BO-8CO-2UO-H	W-1436	AO-2BO-2CO-DO-2CO-DO-2CO-2UO-H
S-1536	AO-2BO-9CO-2UO-H	W-1536	AO-2BO-3CO-DO-2CO-DO-2CO-2UO-H

AO = 6″ Front Section.
BO = 6″ Front Center Section.
CTO = 6″ Center Section with tapping for regulator.
CO = 6″ Center Section.
DO = 6″ Center Conn. Section with 2-3½ return Tappings.
UO = 6″ Rear Center Uptake Section.
H = 6″ Back Section.

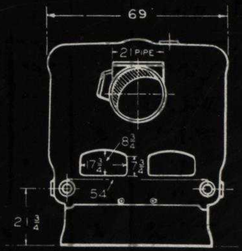
48-Inch Ideal Water Tube Boiler—Steam or Water

For Oil Burning

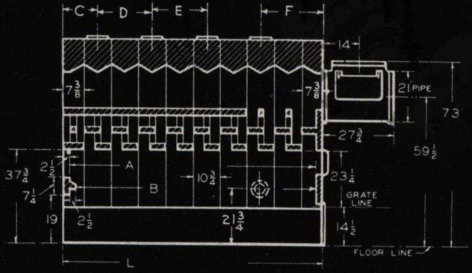
Dimensions



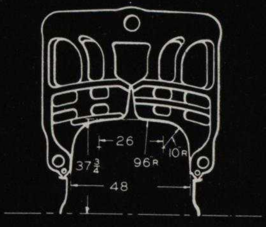
FRONT VIEW SHOWING MAXIMUM SIZE OF OPENINGS



REAR VIEW



SECTION THROUGH BOILER



FRONT SECTION REMOVED SHOWING COMBUSTION CHAMBER

48-Inch Ideal Water Tube Boiler—Steam or Water

For Oil Burning

Dimensions—Outlets—Inlets

Number of Boiler		Number and Size of Outlets		Number and Size of Inlets		Length "L" Inches	Firebox Dimensions					
Steam	Water	Steam	Water	Steam	Water		A	B	C	D	E	F
S-4808-O	W-4808-O	3-6″	3-6″	4-4″	4-6″	79¼	74¾	72¼	12¾	32¼	....	12¾
S-4809-O	W-4809-O	3-6″	3-6″	4-4″	4-6″	90	85½	83	12¾	32¼	....	23½
S-4810-O	W-4810-O	3-6″	3-6″	4-4″	4-6″	100¾	96¼	93¾	12¾	32¼	....	23½
S-4811-O	W-4811-O	4-6″	4-6″	4-4″	4-6″	111½	107	104½	12¾	21½	21½	23½
S-4812-O	W-4812-O	4-6″	4-6″	4-4″	4-6″	122¼	117¾	115¼	12¾	21½	32¼	23½
S-4813-O	W-4813-O	4-6″	4-6″	4-4″	4-6″	133	128½	126	12¾	32¼	32¼	23½
S-4814-O	W-4814-O	4-6″	4-6″	4-4″	4-6″	143¾	139¼	136¾	12¾	32¼	32¼	23½

ASSEMBLAGE OF SECTIONS

Number of Boiler Steam or Water	Left Hand Side Assemblage	Right Hand Side Assemblage
4808-O	A-CX-F-F-NX-F-GX-I	A-K-F-F-F-F-MX-I
4809-O	A-CX-F-F-NX-F-GX-U-I	A-K-F-F-F-F-MX-U-I
4810-O	A-CX-F-F-NX-F-F-GX-U-I	A-K-F-F-F-F-F-MX-U-I
4811-O	A-CX-F-NX-F-NX-F-F-GX-U-I	A-K-F-F-F-F-F-F-MX-U-I
4812-O	A-CX-F-NX-F-F-NX-F-U-GX-U-I	A-K-F-F-F-F-F-F-U-MX-U-I
4813-O	A-CX-F-F-NX-F-F-NX-F-U-GX-U-I	A-K-F-F-F-F-F-F-F-U-MX-U-I
4814-O	A-CX-F-F-NX-F-F-NX-F-F-U-GX-U-I	A-K-F-F-F-F-F-F-F-F-U-MX-U-I

A = 7⅜″ Front Section.

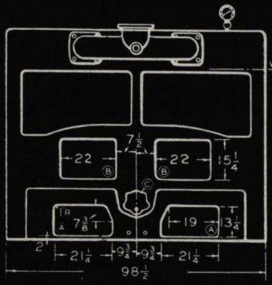
K = 10¾″ Closed Front Flue.
CX = 10¾″ Closed Front Flue Connecting (Supply Only).
F = 10¾″ Closed Center Section.

NX = 10¾″ Closed Center Connecting (Supply only).
U = 10¾″ Open Rear Center.
MX = 10¾″ Open Rear Center Connecting (Return Only).
GX = 10¾″ Open Rear Center Connecting (Supply and Return).
I = 7⅜″ Open Back Section.

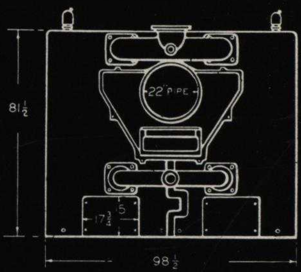
79-Inch Ideal Water Tube Boiler—Steam or Water

For Oil Burning

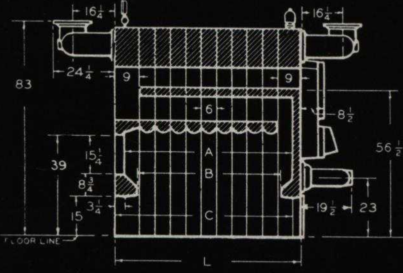
Dimensions



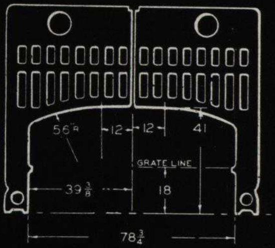
FRONT VIEW SHOWING MAXIMUM SIZE OF OPENINGS



REAR VIEW



SECTION THROUGH BOILER



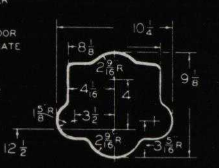
FRONT SECTION REMOVED SHOWING COMBUSTION CHAMBER

A— OIL BURNERS CAN BE INSTALLED THRU ASHPIT DOOR OPENINGS WITHOUT REMOVING THE CENTER GRATE SUPPORT.

B— OIL BURNERS CAN BE INSTALLED THRU FIRE DOOR OPENINGS WITHOUT REMOVING THE CENTER GRATE SUPPORT.

C— BURNER CAN BE INSTALLED THRU THE CENTER GRATE SUPPORT OPENING IN FRONT SECTION BY REMOVING CONNECTING HEADER AND NIPPLE TAP NIPPLE PORT IN FRONT SECTION AND PLUG SAME.

NOTE— OIL BURNING BOILER CAN BE CONVERTED INTO COAL BURNING BOILER BY TAPPING FRONT END OF CENTER GRATE SUPPORT AND CONNECTING TO FRONT SECTION BY MEANS OF PIPING.



DIMENSIONS FOR CENTER GRATE SUPPORT OPENING IN FRONT SECTION

FLOOR LINE

79-Inch Ideal Water Tube Boiler—Steam or Water

For Oil Burning

Dimensions—Outlets—Inlets

Number of Boiler		Number and Size of Outlets		Number and Size of Inlets		Length "L"	Firebox Dimensions		
Steam	Water	Steam	Water	Steam	Water		A	B	C
S-7909-O	W-7909-O	2-10″	2-10″	1-4″	2-10″	60″	53½	42½	56¾
S-7910-O	W-7910-O	2-10″	2-10″	1-4″	2-10″	66″	59½	48½	62¾
S-7911-O	W-7911-O	2-10″	2-10″	1-4″	2-10″	72″	65½	54½	68¾
S-7912-O	W-7912-O	2-10″	2-10″	1-4″	2-10″	78″	71½	60½	74¾
S-7913-O	W-7913-O	2-10″	2-10″	1-4″	2-10″	84″	77½	66½	80¾
S-7914-O	W-7914-O	2-10″	2-10″	1-4″	2-10″	90″	83½	72½	86¾
S-7915-O	W-7915-O	2-10″	2-10″	1-4″	2-10″	96″	89½	78½	92¾
S-7916-O	W-7916-O	2-10″	2-10″	1-4″	2-10″	102″	95½	84½	98¾
S-7917-O	W-7917-O	2-10″	2-10″	1-4″	2-10″	108″	101½	90½	104¾

ASSEMBLAGE OF SECTIONS

Number of Boiler Steam	Assemblage	Number of Boiler Water	Assemblage
S-7909-O	A-7C-H	W-7909-O	A-7C-H
S-7910-O	A-8C-H	W-7910-O	A-8C-H
S-7911-O	A-9C-H	W-7911-O	A-9C-H
S-7912-O	A-10C-H	W-7912-O	A-10C-H
S-7913-O	A-11C-H	W-7913-O	A-11C-H
S-7914-O	A-12C-H	W-7914-O	A-12C-H
S-7915-O	A-12C-U-H	W-7915-O	A-12C-U-H
S-7916-O	A-FC-11C-2U-H	W-7916-O	A-FC-11C-2U-H
S-7917-O	A-FC-12C-2U-H	W-7917-O	A-FC-12C-2U-H

A = 9″ Front Section.
FC = 6″ Front Center Section.
C = 6″ Center Section.
U = 6″ Rear Center Uptake Section.
H = 9″ Back Section.

BOILER SUNDRIES

TRIMMINGS

Ideal Boilers are regularly furnished complete with trimmings and equipment as follows:

JACKETED—Coal Burning

Ideal Redflash — New Ideal Arco — Ideal Magazine

Steam—Ideal Metallic Jacket, Air Cell Insulation, Steam Gauge, Safety Valve, Gauge Glass Trimmings, Try-Cocks, Automatic Steam Regulator and Firing Tools.

Water—Ideal Metallic Jacket, Air Cell Insulation, Combination Altitude Gauge and Thermometer, Automatic Water Regulator (except 3, 4 and 5 size Redflash) and Firing Tools.

UNJACKETED—Coal Burning

Ideal Water Tube — Ideal Arco Round — New Ideal Arco — Ideal Redflash

Steam—Steam Gauge, Safety Valve, Gauge Glass Trimmings, Try-Cocks, Automatic Steam Regulator and Firing Tools.

Water—New Ideal Arco and Redflash—Combination Altitude Gauge and Thermometer, Automatic Water Regulator (except 3, 4 and 5 size Redflash) and Firing Tools. Water Tube and Arco Round—Firing Tools only.

IDEAL OIL BURNING BOILERS

Redflash — Water Tube — Arco Round — New Ideal Arco

Steam and Water—Trimmings and equipment furnished are same as corresponding Coal Burning Boilers except Oil Burning Boilers are shipped less Grate Bars, Angle Levers, Angle Lever Links, Connecting Bars, Shaker Handle, Regulator, and Firing Tools, but Flue Brush or Scraper is included. Plate work especially adaptable to installation of Oil Burner is supplied.

No. 11 — No. 12 — No. 92 OIL BURNING BOILERS—DE LUXE MODELS

No. 21 AUTOMATIC COAL FIRING BOILER

Steam Boilers—Ideal Metallic Jacket, Air Cell Insulation, Combination Pressure and Vacuum Gauge, Safety Valve, Gauge Glass Trimmings, Try-Cocks and Flue Brush or Scraper.

Water Boilers—Ideal Metallic Jacket, Air Cell Insulation, Combination Altitude Gauge and Thermometer (except No. 11 which has two separate instruments) and Flue Brush or Scraper.

ARCOLA HEATERS AND ARCOLA OUTFITS

(Jacketed or Unjacketed)

Ashpan and Firing Tools are included with Arcola Heaters when sold separately. Arcola Outfits include Arcola, Ashpan, Firing Tools, Corto 5-Tube 38-inch Radiation as scheduled in price list (made up into any number of radiators desired) and adjuncts consisting of Expansion Tank and Gauge, Drain Cock and Overflow Fitting. Automatic Regulator can be furnished at extra cost.

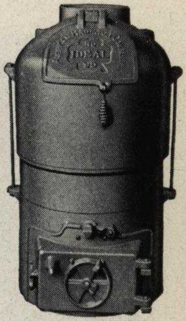
BUSHINGS

Additional plugs or bushings, or plugs or bushings of sizes other than those regularly furnished, will be charged for at regular prices.

IDEAL DOME TYPE WATER HEATERS

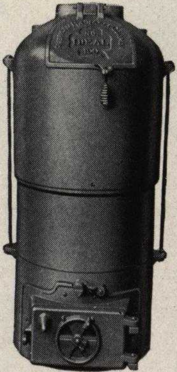
No. 65

No. 80

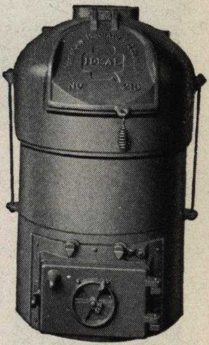


No. 95

No. 125



No. 150



No. 210

No. 250

Guaranteed for Working Pressure of 125 lbs.

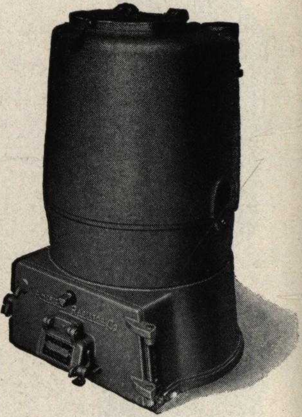
Plant Tested to 315 lbs.

(Hydrostatic Pressure)

For Data, Dimensions and Capacities, see page 171

IDEAL SCUTTLE-A-DAY HOT WATER HEATERS

Scuttle-a-Day
Nos. 75-F and 110-F



Scuttle-a-Day
No. 175-F

Guaranteed for Working Pressure of 125 lbs.
Plant Tested to 315 lbs. (Hydrostatic Pressure)

Arco Incinerator

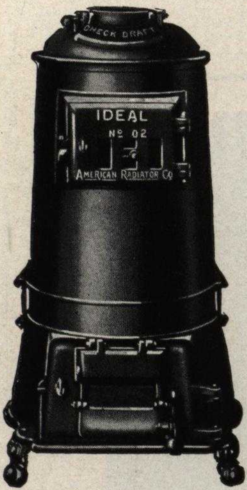
ARCO INCINERATOR

The Arco Incinerator embodies Scuttle-a-Day features, but in addition burns the garbage with the same fire that heats the water, at no extra fuel cost.

Guaranteed for Water Pressure of 125 lbs. Plant Tested to 315 lbs. (Hydrostatic Pressure)

For Data, Dimensions and Capacities, see page 173

IDEAL HOT WATER SUPPLY BOILERS



Nos. 01 to 03

Nos. 04 to 09

For Data, Dimensions and Capacities.......................See Page 173

CAPACITIES, DIMENSIONS AND TAPPINGS

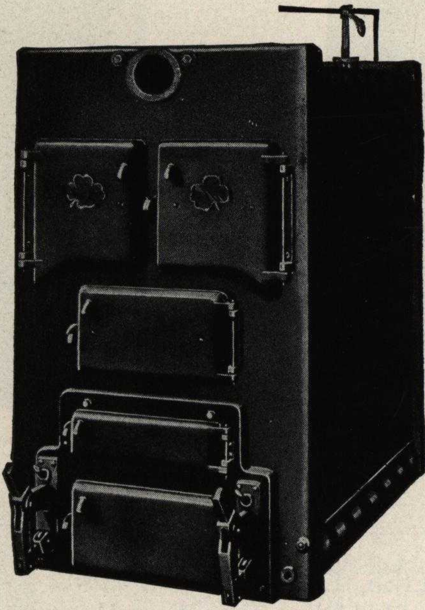
Ideal Dome Type Water Heaters

Guaranteed for Working Pressure of 125 lbs.
Plant Tested to 315 lbs. (Hydrostatic Pressure)

Number of Boiler	Heating Capacity Gallons	Height of Boiler Inches	Diameter of Grates Inches	Tappings Inches	Smoke-Pipe Inches
65	65	$19\frac{1}{16}$	10	1	5
*80	80	$22\frac{1}{8}$	10	1	5
95	95	$22\frac{1}{8}$	10	1	5
125	125	$25\frac{1}{8}$	10	1	5
*150	150	$28\frac{3}{16}$	10	1	5
*210	210	$25\frac{7}{16}$	12	2	5
250	250	24	12	2	5

* Firebrick in fire ring.
These heaters have no base bottom. Ashpan not furnished. Painted green before shipping.

ARCO HIGH TEST TANK HEATER



Guaranteed for Working Pressure of 120 lbs.

Plant Tested to 300 lbs. (Hydrostatic Pressure)

For Data, Dimensions and Capacities, see page 174

CAPACITIES, DIMENSIONS AND TAPPINGS

"Scuttle-a-Day" and Arco Incinerator Hot Water Supply Boilers (for coal-burning)

Guaranteed for Working Pressure of 125 lbs. Plant Tested to 315 lbs. (Hydrostatic Pressure)

No. of Boiler	Heating Capacity Gallons	Diameter of Grate Inches	Style of Grate	Width of Base Inches	Height of Water Section Inches	Height of Boiler Inches	Height to Center of Supply Inches	Height to Center of Return Inches	Height to Top of Supply Tapping Inches	Height of Base Inches	Distance between Centers Supply Tapping	Outlets No. & Size	Inlets No. & Size	Size Smoke-pipe Inches
‡* 75-F	75	10	Rocking	14¼	5½	18⅜	17⅜	14⅛	....	7	....	1-1	1-1	6
‡*110-F	110	10	"	14¼	8½	21⅜	20⅜	14⅛	....	7	....	1-1	1-1	6
*175-F	175	12	"	17¼	12	26⅝	....	14	26	7⅝	9	2-1¼	2-1¼	6

‡ Also applies to Arco Incinerator. Total height of latter: No. 75-F—35¼ in., No. 110-F—38¼ in.
* Ash-pan for these heaters can be provided at slight additional cost.
All Scuttle-a-Day Heaters and Arco Incinerators are equipped with firebrick.
Green painted before shipping.

Ideal Hot Water Supply Boilers

Guaranteed for Working Pressure of 100 lbs. Regularly Tested at Plant at 250 lbs. (Hydrostatic Pressure)

01	74	10	Slide	15¼	....	27⅝	....	14¾	24⅛	7⅝	....	1-1½	1-1½	5
02	124	10	"	18	....	34½	....	14½	31	7⅝	....	1-1½	1-1½	5
03	192	10	"	18	....	36⅛	....	12¼	32	7⅝	....	1-1½	1-1½	5
04	257	12	Rocking	23⅛	....	40⅜	....	14¾	36⅜	12⅞	12	2-1½	2-1½	6
† 05	280	12	"	23⅛	....	45⅞	....	14¾	42⅛	12⅞	14¾	2-1½	2-1½	6
06	512	15	"	24¾	....	48	....	14⅞	42⅜	12⅞	14⅞	3-2	2-2	6
† 07	560	15	"	24¾	....	53½	....	14⅞	48½	12⅞	17¼	3-2	2-2	6
08	800	18	"	27⅛	....	47¾	....	15	42½	12⅞	18¼	3-2	2-2	7
† 09	880	18	"	27⅛	....	54⅛	....	15	48¾	12⅞	17¾	3-2	2-2	7

† Equipped with dome sections.
Scuttle-a-Day and Ideal Hot Water Supply Boilers have butterfly draft doors for automatic regulation.

CAPACITIES, DIMENSIONS AND TAPPINGS

Arco High Test Tank Heaters—Guaranteed Working Pressure 120 lbs. Plant Tested to 300 lbs.

COAL BURNING

No. of Boiler	Heating Capacity Gallons *	Grate Area Sq. Ft.	Width of Base Inches	Height of Boiler Inches	Length of Boiler Inches	Height to Outlets Inches	Outlets No. & Size, Ins.	Inlets No. & Size, Ins.	Smoke-Pipe Inches	Chimney Size Inches	Chimney Height Feet
515	1,500	2.72	31¾	53½	21	50	2-4	2-4	9	8x12	30
618	1,800	3.36	31¾	53½	25	50	2-4	2-4	9	8x12	35
721	2,100	4.00	31¾	53½	29	50	2-4	2-4	9	8x12	35
824	2,400	4.64	31¾	53½	33	50	2-4	2-4	9	8x12	35
927	2,700	5.28	31¾	53½	37	50	2-4	2-4	9	8x12	40
1030	3,000	5.92	31¾	53½	41	50	2-4	2-4	9	12x12	40

When burning buckwheat coal select boiler with 20% larger grate area than used for larger sizes of anthracite coal.

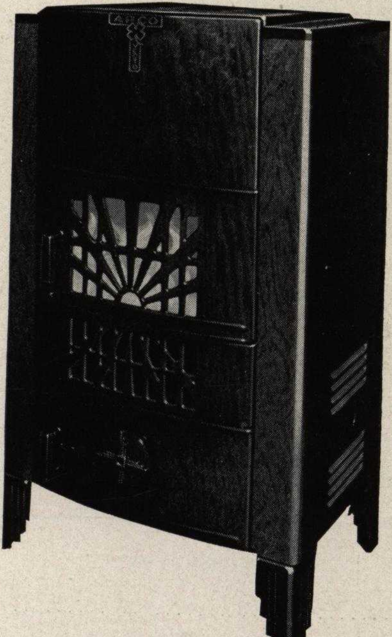
OIL BURNING

618-O	1,520	.....	31¾	53½	25	50	2-4	2-4	9	8x8	30
721-O	1,770	.....	31¾	53½	29	50	2-4	2-4	9	8x8	30
824-O	2,020	.....	31¾	53½	33	50	2-4	2-4	9	8x12	30
927-O	2,270	.....	31½	53½	37	50	2-4	2-4	9	8x12	35
1030-O	2,520	.....	31¾	53½	41	50	2-4	2-4	9	8x12	35

*NOTE: Capacities based on 100 degrees F. rise in 6 hours.
Arco High Test Tank Heaters are regularly equipped with two 2″ brass cleanout plugs at no additional charge.

ARCO VECTO CIRCULATING HEATER

New Beauty—New Efficiency



Heating Capacity—7,500 cubic feet

Burns hard coal, soft coal, coke, wood or oil. Shipped complete with ash pan, water tank and shaker handle, ready for use.

ARCO VECTO
CIRCULATING HEATER

New, appealing sales features:

1. Backed by the best known name in heating.
2. Moderately priced.
3. Outstandingly beautiful.
4. Finished in vitreous walnut grained enamel.
5. Cool grip door handles.
6. Fire door has mica windows to show fire.
7. Reversible flue collar.
8. Large fuel door.
9. Grilled cast iron top for air circulation.
10. Large humidifying water tank—can be filled without removing.
11. Air tight doors.
12. Large ash pan.
13. Large, heavy corrugated cast iron firepot.
14. Burns 18-inch sticks of wood.
15. Smoke curtain over fire door opening.

SPECIFICATIONS

Size of Firepot	20 x 13″
Full Depth (Grate Line to Bottom of Fire Door)	10″
Size of Fire Door Opening	15¼″ x 9¾″
Smoke Pipe Connection	7″
Dimensions: Height	45¾″
Width	27¼″
Depth	18¼″
Shipping Weight, approximately	375 lbs.

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